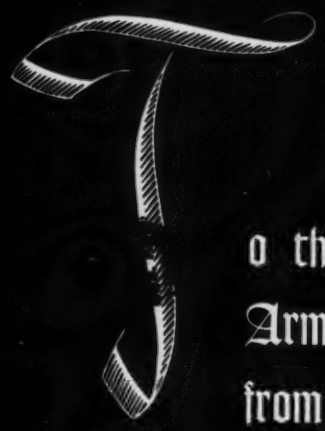
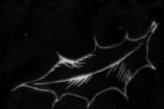
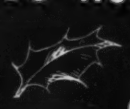


To the men and women in the Armed Forces everywhere from the farthest East to the farthest West; from the farthest North to the farthest South... At this Christmas Season, we renew our wish that Peace may come again soon to hasten your safe return to loved ones hopefully awaiting you.

OF THE NATIONAL RETAIL DRY GOODS ASSOCIATION





*December 1944*

# Good will to men

AMERICAN BEMBERG CORPORATION

# *Cannon!*

**Cannon sheets lead in consumer demand**

**in 50% more stores than the nearest competitor!***

TRADE MARK CANNON

# *Cannon Percale Sheets*

***Made by the Makers of Cannon Towels and Hosiery***

**Cannon Mills, Inc., 70 Worth St., New York 13, N. Y.**

**California here I come is going to be a popular chorus for a long while**

*San Francisco Examiner*

*for more than 50 years the leading newspaper in its field*

*The Bulletin*

OF THE NATIONAL RETAIL DRY GOODS ASSOCIATION

Volume 26 Number 12

**DECEMBER, 1944**

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THE Bulletin OF THE NATIONAL RETAIL DRY GOODS ASSOCIATION
DECEMBER, 1944

# Let's Argue!

LEW HAHN

## The Retailer and the Postwar Price Level

SOMETHNG in the nature of men prompts us ever to look forward into some new division of time in which things are going to be very different from those which we have experienced most recently. No matter how unsatisfactory the year through which we have just fought our way the new year may be better. As realists we know the mere passing of an invisible time line into a new division of our lives can witness only the more or less logical development of the conditions we have known in the dying year. And yet, we hope.

We are about to enter the year of 1945. While we cannot foresee the record which our lives as individuals and as a nation will write upon that new year, we do well to regard it as a fateful time. It should witness the end of our war in Europe and its closing days should see us well along the road to final victory in the Pacific. Perhaps its days will not close before it sees the restoration of world peace. We are free to indulge that hope.

After war comes peace. Into what sort of peace will the war's end induct us? Shall we know the kind of peace of which men weary of toil and fighting dream? Will peace mean rest and the deep satisfaction of a people, freed of the alarms of war, free to develop their arts and crafts?

Or shall we know a peace no less fierce than the war out of which it developed? Can the peace begotten of such limitless hate and destruction be other than a problem child?

Without considering the possibility of deadly clashes of conflicting ideologies, the problems of permitting, or compelling, peace in liberated nations, or others of the tremendous problems of the postwar international scene, it occurs to us there will be many problems in connection with the civilian economy of our own people. How are we going to design our own brave new world?

So far we have talked only in terms of the necessity to provide millions of jobs for men and women who will need them. Our talk mainly has had to do with planning for a prodigious new industrial production. Every manufacturer must be prepared to turn out more goods than ever before. This is to make it possible for the manufacturing industries to employ all the people who must have jobs! As though production alone could solve our problems!

No matter how earnest our manufacturers may be in their determination to produce goods, *it will be consumption alone which will keep the payrolls going!* Between production and consumption lies the field of distribution.

THE RECORD IS T
KELVINATOR POLARSPHERE
Kelvinator

# STROUBLE-FREE!

Three years of war have shown what a priceless asset Kelvinator's record of trouble-free performance has been to both Kelvinator retailers and Kelvinator owners.

When freedom from trouble and service was needed most by retailers beset with manpower and material shortages, Kelvinator set a record that has been the envy of the industry.

The reason for this great record is the Polarsphere—Kelvinator's famous cold-making mechanism that is sealed in steel and permanently oiled for years of dependable, trouble-free operation without any attention whatever.

With this great performance record behind it, Kelvinator is looking ahead with the greatest of confidence to the postwar years—a period when dependability of operation will undoubtedly be a most important sales feature in home refrigeration products.

The Kelvinator Polarsphere . . . powering the Kelvinator Refrigerator and the new Kelvinator Home Freezer...will be one of the greatest assets in the most valuable postwar franchise in the appliance industry.

LOOK AHEAD WITH KELVINATOR

DIVISION OF NASH-KELVINATOR CORPORATION

Kenosha • Milwaukee • DETROIT • Grand Rapids • Lansing

If distributors fail to induce consumption the payrolls will fall off, the machines in the industrial plants will stop, unemployment will grow and with it the bread line, new WPA schemes and all the troubles and confusions of depression.

How few of our great industrialists, busy with their planning, seem to have thought of this! Their economist associates assure them there will be abundant purchasing power to prime the industrial machine and, one and all, they seem to think the eager desire of consumers to have the things which the war has taken away will do the rest. Goods will sell themselves!

We do not cherish such optimistic views. We are thinking of a factor about which the economists take no heed. We make a distinction between "purchasing power" and what we term "purchasing willingness." It will be the job of retailers to convert purchasing power into purchasing willingness. It should be recognized that, in all probability, the reconversion to peace time production cannot be achieved without creating some initial unemployment *and unemployment grows by feeding on itself.* The average man without a job is not a free spender. No matter what his savings may be, he feels the need of conserving his funds so long as he is out of a job.

Therefore, we believe the problem of how best to turn purchasing power into purchasing willingness is one of the great problems of the time after the war to which retailers and industrialists alike now should be giving serious consideration.

How can manufacturers and retailers cooperate to do this job? The need to perform effectively in this direction is one of the great obligations which business cannot evade. On the other hand, to undertake it, as we must, is also to accept a serious obligation. If we are to bend every effort to induce our public to buy our merchandise, to spend freely of their savings even while they may wait for employment, we must have reasonable assurance that this willingness to support the industrial machine will be rewarded by the creation of the needed jobs.

With perhaps some vague realization of these facts, retailers stand by and watch the planning of the industrialists. Too long have retailers acted as though they were innocent bystanders in our economic system instead of being huge contributors to its operation. No longer can retailers operate as though they were mere sidewalk vendors taking advantage of a stream of traffic created by some one other than themselves.

As retailers we stand and wait wide-eyed, hoping someone from the mystic realm of economics or from that Olympus where dwell the giants of industry may tell us *what the postwar price level is going to be.* While we wait, Chester Bowles and his omniscient associates busy themselves in the preparation of post-war straitjackets for industry and distribution.

This is the prime fallacy of the age! *Retailers alone are in daily contact with that public upon whose purchasing willingness every hope of success of all the most stupendous and impressive plans of the industrialist must rest.* Will the public buy freely and in sufficient

volume to maintain the industrial activity needed to make and continue the millions of jobs we shall need? If they do all will be well. If they do not nothing can succeed!

In this situation, who is there but the retailers to know the price levels at which it may be presumed the public will freely buy? Instead of retailers waiting for some God-like intelligence out of another field to tell them what the postwar price level *is going to be,* retailers now should be telling the manufacturers the prices at which they have reason to believe the necessary large volume of consumption can be achieved. The retailers could tell better even than Chester Bowles what the price level *should* be and the manufacturers would be wise to plan to hit that level.

In the words of Saul Cohn, chairman of our Postwar Planning Committee, we shall be entering a period in which the dominating factor in our economy must be consumption rather than production. This requires a great speeding up of the tempo of our economic life. Instead of first planning production and then hoping for consumption, we must begin by estimating the price levels at which maximum consumption can be achieved and plan our production to fit the facts which are so developed. *No trustworthy estimates of consumption potentials at various price levels can be had without the testimony of the retailers who live and succeed by their ability to make such appraisals.*

Chester Bowles and his associates are trying to do that job. No other agency could start with a greater probability of failure. To allow any price controller freedom in this field is to invite disaster because the province and the continous effort of the price controller have been to keep prices down. In order to secure the optimum of consumption it may be necessary to increase prices because, while we put consumption first, there must be production and distribution to complement consumption. Despite any eagerness for consumption, without production and distribution the desire to consume can lead only to disaster.

If Government considers it necessary to dictate the price levels at which goods are to be offered for consumption at the war's end, it would be much wiser to place that important responsibility into the hands of some new agency created for that purpose. Such an agency could make a scientific and unprejudiced approach to the problem while no price controller, who has been obligated to keep prices down, could possibly tackle the job in that spirit.

This is a question of great importance and one in which retailers should be an active influence. There is sufficient understanding among the leading manufacturers of the nation, or so we believe, to cause them to welcome the cooperation of the retailers. What are we going to do about it? Is it possible to arouse retailers to a sense of the important responsibility which is theirs for the creation of peace-time conditions which will assure jobs for our people and endless opportunities for the expansion of the service of business in the interests of all our people?

# Millions saw Doggy Style

**The dog collar,** which, 40 years ago, was used to conceal wrinkled necks of aging dowagers, is back with a new wrinkle: matching collars for dog and debutante.

Millions of people from coast to coast saw this picture, because it appeared in LIFE.

**How can you in the department store business benefit by LIFE's large readership? Read what one merchant, H. E. Willard, of Levy Bros., San Mateo, Calif., says about LIFE: "Our buyers and key people in our organization believe that 65 to 75% of the people in this community read LIFE."**

What the staff of Levy Bros. say about LIFE's popularity in San Mateo applies, in all probability, to *your* community as well. Because week after week, LIFE holds the attention, stimulates the thinking, and increases the knowledge of more people than any other magazine in America.

**LIFE** { **More readers every week than any other magazine in America**

# "Selling—THE KEY TO 55 MILLION JOBS"

## WILL BE THEME OF JANUARY CONFERENCE

"DETERMINATION to hold any kind of business meeting in these solemn days of war is something not to be taken without conscientious—even prayerful—consideration," said General Manager Lew Hahn in announcing that the January meeting of the Association, to be held at the Pennsylvania Hotel on January 8-12, would be streamlined to meet wartime conditions.

It was decided, he explained, that because this meeting is deliberately held at a time when large numbers of retail folks are required by the market needs of their enterprises to come to New York, our meeting should not place any considerable additional burden upon transportation facilities.

It also was believed that never was it so necessary for the general good that retailers should gather and give serious debate to the part which retail distribution soon must play in the effort to provide full employment.

Full employment, according to leading economists, as well as the Bureau of Labor Statistics, involves 55 million jobs, for an annual national income approximately 40 per cent higher than that of the year 1940. The two related objectives constitute the over-all theme of the coming conference.

A general session will open the Conference Monday evening, January 8, with President Edward N. Allen making the keynote address. A prominent industrialist will develop, from the manufacturing viewpoint, the subject, "Capitalizing the Opportunities Ahead." The pattern of the succeeding general sessions is, in outline, as follows:

TUESDAY MORNING:

**Merchandising the Expanding Sales Volume**
Outlook for Reconversion—Problems of Government Surpluses—What's Ahead for Major Appliances?

TUESDAY AFTERNOON:

**Controls—Government or Business?**
Postwar Tax Problems—Social Security—Status and Future of Wartime Government Controls.

(*Continued on page* 74)

# How to use traffic appliances to build volume in

**Many department stores** have overlooked the real sales potentialities in traffic appliances.

Toasters, irons, mixers, coffee makers, and other fast-moving appliances brought customers into department stores before the war . . . but often for just a single purchase. Any further business from that customer was usually unrelated and unplanned.

Here's a plan to take advantage of the traffic created by these small appliances . . . a plan tested out in several department stores before the war with remarkable success. We call it "The Electrical Homemaking Department."

### The One-Two-Three of Bigger Appliance Vol

Here's what an Electrical Homemaking Departm is and how it works:

1. **It will stock a *complete* line of electrical appli . . . everything for the kitchen, laundry, and the of the house, too.**

   *Customers will find every electrical need filled in store—in one department. Customers will regard store as local headquarters for electrical appliance*

2. **The appliances will be grouped attractively.**

   *The same related-item selling principles, which u for your furniture department, will be applied to trical appliances. Customers seeking traffic appli will come into contact with refrigerators, was ranges, home freezers, dishwashers, garbage dispo and other major appliances.*

3. **Realistic demonstration rooms—all-electric k ens, and an all-electric laundry—will exhibit a ances plugged in . . . ready for demonstration u actual home conditions.**

# major appliances

*Merchandising men have proved that appliances sell faster when actual demonstrations are given. The demonstration rooms help the customer visualize the appliance in her own home.*

**Better Plan . . . better product . . . bigger sales!**

An Electrical Homemaking Department will make full use of your sales personnel . . . will cut operating expenses per sale . . . will build related-item sales . . . will speed up sales of major appliances.

We suggest that you start planning *your* Electrical Homemaking Department right now . . . and that you add to the sales-building features of this plan the reputation and consumer acceptance that a full line of *General Electric* appliances will bring. Department Store Merchandising Section, General Electric Co., Appliance and Merchandise Dept., Bridgeport, Conn.

**FOR VICTORY:** General Electric is working night and day to back the attack. You can help, too, by buying and holding more war bonds.

*TUNE IN:* "The G E All-Girl Orchestra," Sunday 10 p. m., E.W.T., NBC—"The World Today" news, every weekday, 6:45 p. m., E.W.T., CBS.

**Come and see G.E. at these January Shows**

1. *Chicago Housewares Show*
   *Jan. 7-12 Rooms 683-4-5, Palmer House, Chicago*
2. *N. R. D. G. A. Show*
   *Jan. 8-12 Space 40-46, Hotel Pennsylvania, New York City*
3. *Chicago Furniture Show*
   *Furniture Mart, Chicago Rooms 1727 and 1728*

**Everything Electrical for After-Victory Homes**

**GENERAL ELECTRIC**

# Unit Cost Accounting as a Basis for Postwar Merchandising

By Ward Melville,
*President, Melville Shoe Corp. and President, Institute of Distribution*

The first step in lowering the cost of distribution must be to ascertain the unit costs of distributing specific goods. Revision of pricing which would follow would have the net result of lowering total distribution costs. These were the points made by Mr. Melville in an address last month before the Institute of Distribution. On January 1st the theory will be put into practice, when the Melville shoe chains inaugurate the use of a unit cost system.

IF our hopes for a high level of production and income in this country are to be realized, certainly the distribution agencies of this country have a big job to do. Higher real income means the production and distribution of far greater quantities than the retail stores of this country have ever handled.

Assuming that the production of goods can and will be increased over prewar, and that the purchasing power of the people will increase to absorb these goods, what is the prospect for their distribution?

First of all, we see that the situation in retail distribution at the end of this war will be *considerably* better than most people would have thought possible two years ago. Some economic prophets predicted that upwards of 50 per cent of the total number of retail stores would be closed during the war. It appears, however, that the number of retailers at present is only 15 per cent less than before the war. The 85 per cent will handle this year, a volume of dollar business greater than was handled by the 100 per cent in 1939, or in any prewar year. They will handle a greater volume of business *in units* than in any year except 1941; and the quantity of goods will be only about 5 per cent less than at the 1941 peak.

Despite this showing, it is undoubtedly true that a definite expansion of the retail business will be necessary if the high productive possibilities of this country are to be translated into consumer goods. I think we will have no difficulty in distributing all of the goods that can be produced and purchased.

Of course, it is of the greatest importance that these goods shall be produced and distributed at the lowest possible cost. In the long run, the *only* way the real income of the people of this country can be increased is through the reduction of total costs involved in the production and the distribution of goods they use and want.

You will note that I say "total costs". As we all know, there are instances where the great economies made possible by concentration of production are accompanied by actual increases in the cost of product distribution. Properly considered, the "costs of distribution" include the cost of distributing materials, supplies, and parts, as well as the finished product—and, from this point of view, it is impossible to separate the costs of what we call "production" and "distribution". If the final cost to the consumer has been reduced, through any combination of factors, an economic result has been achieved regardless of whether the costs of "marketing" have been decreased or increased.

However, even while insisting that this over-all yardstick should be applied, we must recognize the fact that more *can* and *should* be done to cut the costs of distributing finished goods.

Now, the chain store has accomplished more, in a comparatively short period of time, in reducing the actual cost of distribution than any other development in this country. This has been possible because of the existence in the retail field of the greatest area of free competition in our economy. I hope we can look forward to the preservation of that area of free competition. If we can, we can also look forward to a *further* competitive reduction of total costs by chain store organizations. All of this will be definitely in the interests of consumers and of the health of the entire economy.

There is a key word in all that I have said—and that word is "costs". Let us examine that word a little more closely.

Are the costs of distribution *really known*—in detail—in this country?

### Unit Costs Generally Unknown

The over-all costs of distribution, in terms of a percentage of sales, are known fairly well—by individual distributors and for broad types of operation. After all, that is largely a matter of adding up the dollars actually spent in operation and dividing by sales. If, however, you ask the individual distributor how much it costs him *to distribute a certain item*, you usually get either a guess or a frank statement that he doesn't know.

We *don't* know our costs, as manufacturers know their costs.

Fifty years ago, if you asked the average manufacturer if he knew his costs and he answered "yes", he meant only that he knew his *total* cost of production. Today, if you ask him the same question, and if his answer is still "yes", he nearly always means that he knows his *costs by products*. Most manufacturers would not think of answering "yes" to this question if

FOLLOW THE MOHAWK TRAIL TO MORE PROFITS
IN COLONIAL DAYS, the Mohawk Trail stretched from Fort Massachusetts to Fort Niagara. Now, with Mohawk's dynamic merchandising plan, it covers America with 88 top-notch distributors strategically located to offer retailers these marked advantages!
1★ Low inventories—faster turnover
2★★ Wider stock plan—more volume
3★★★ Fewer markdowns—higher profits
4★★★★ 24 to 48 hour delivery on available items*
5★★★★★ Equitable distribution of today's limited volume
In wartime—like other retailers, you're probably buying and selling what you can get.
In peacetime—when production is again normal, you have to put your chips on a stock plan before the selling season begins—
Or let Mohawk take the guess out of retailing—follow the Mohawk Trail.
Why not take the sure way—the Mohawk way—look into Mohawk's dynamic distributing and merchandising plan!
Mohawk Carpet Mills, Amsterdam, N. Y.
* Like all carpet mills, Mohawk is today on war production—but Mohawk makes a point of fair shares for all distributors.
MOHAWK
The Mill with the Retail Viewpoint
"FOR HIGH ACHIEVEMENT
IN WAR PRODUCTION"
Merchandise the Five Point Star Way—The MOHAWK Way!
Liberty 27914

## MOHAWK *Products and Service are brought to you by the greatest Distributing Organization ever assembled in the Carpet Industry*

**ALABAMA**
Birmingham 3—Renard Lino. & Rug Co.

**CALIFORNIA**
Fresno 8—D. N. & E. Walter & Co.
Los Angeles 14—Butler Bros.
Los Angeles 14—D. N. & E. Walter & Co.
San Francisco 19—Butler Bros.
San Francisco 6—D. N. & E. Walter & Co.

**COLORADO**
Denver 2—Renard Linoleum & Rug Co.

**CONNECTICUT**
New Haven 11—Colman Levin Co.

**FLORIDA**
Jacksonville 6—Peaslee-Gaulbert Corp.
Miami 36—Irving Distributors, Inc.
Miami 27—Peaslee-Gaulbert Corp.
Tampa 1—Peaslee-Gaulbert Corp

**GEORGIA**
Atlanta 3—Peaslee-Gaulbert Corp.

**ILLINOIS**
Chicago 8—Glabman Bros.
Chicago 54—Neidhoefer & Co.
Chicago 54—Renard Linoleum & Rug Co.

**INDIANA**
Evansville 10—Small & Scholesky Co.
Indianapolis 4—Renard Linoleum & Rug Co.
Richmond—The Adam H. Bartel Co., Inc.

**IOWA**
Des Moines 9—Renard Linoleum & Rug Co.
Des Moines 8—Schmitt & Henry Mfg. Co., Inc.

**KENTUCKY**
Louisville 2—Otis Hidden Co., Inc.
Louisville 1—Peaslee-Gaulbert Corp.

**LOUISIANA**
Monroe—Monroe Hardware Co.
New Orleans 13—Renard Lino. & Rug Co.

**MARYLAND**
Baltimore 3—Butler Bros.
Baltimore 1—J. J. Haines & Co.

**MASSACHUSETTS**
Boston 14—Colman Levin Co.
Boston 10—Prescott & Co.
Springfield 4—Colman Levin Co.

**MICHIGAN**
Detroit—Buhl Sons Co.
Detroit 26—Lott & Geckler
Grand Rapids 2—Lott & Geckler

**MINNESOTA**
Minneapolis 3—Butler Bros.
Minneapolis 5—Lasher Carpet & Lino. Co.

**MISSOURI**
Kansas City 8—Renard Lino. & Rug Co.
St. Louis 3—Renard Linoleum & Rug Co.

**MONTANA**
Butte—F. E. Buck Sales Co.

**NEBRASKA**
Omaha 1—Orchard & Wilhelm Co.

**NEW YORK**
Binghamton—Columbia Jobbing Co.
Buffalo 3—Lott & Geckler
Buffalo 5—H. D. Taylor Co.
New York City 16—Crockett & Buss, Inc.
New York City 16—Lack Carpet Co., Inc.
Rochester 4—Columbia Distributors, Inc.
Syracuse 16—Columbia Distributors, Inc.
Utica 4—Columbia Distributors, Inc.

**NORTH CAROLINA**
Goldsboro—Allison-Erwin Co.
Charlotte 1—Allison-Erwin Co.
High Point—Allison-Erwin Co.

**OHIO**
Cincinnati 2—Renard Linoleum & Rug Co.
Cleveland 15—Lott & Geckler
Columbus 15—Renard Linoleum & Rug Co.

**OKLAHOMA**
Oklahoma City 1—Peaslee-Gaulbert Corp.
Oklahoma City 2—Renard Lino. & Rug Co.

**OREGON**
Portland 8—Marshall-Wells Co.
Portland 4—D. N. & E. Walter & Co.

**PENNSYLVANIA**
Allentown—Columbia Jobbing Co.
Erie—H. D. Taylor Co.
Harrisburg—Capital Bedding Co.
Philadelphia 6—Butler Bros.
Philadelphia 7—S. Wolf & Sons
Pittsburgh 22—Felix Haif & Bro., Inc.
Pittsburgh 22—Geo. Wehn & Co.
Reading—Columbia Jobbing Co.
Scranton—Columbia Jobbing Co.

**RHODE ISLAND**
Providence 3—Colman Levin Co.

**SOUTH CAROLINA**
Greenville—Allison-Erwin Co.

**TENNESSEE**
Chattanooga 2—Southern Furn. Sales Co.
Knoxville 6—Southern Furn. Sales Co.
Memphis 3—Renard Linoleum & Rug Co.

**TEXAS**
Dallas 1—Peaslee-Gaulbert Corp.
Dallas 1—Renard Linoleum & Rug Co.
El Paso—El Paso Wholesale Carpet & Furniture Co., Inc.
Houston 1—Peaslee-Gaulbert Corp.
Houston 2—Renard Linoleum & Rug Co.
San Antonio 6—Peaslee-Gaulbert Corp.

**UTAH**
Salt Lake City—D. N. & E. Walter & Co.

**VIRGINIA**
Norfolk—J. J. Haines & Co.
Richmond—J. J. Haines & Co.

**WASHINGTON**
Seattle 14—Marshall Wells Co.
Seattle 1—D. N. & E. Walter & Co.
Spokane—Marshall-Wells Co.
Spokane 8—D. N. & E. Walter & Co.

**WEST VIRGINIA**
Charleston 21—Guthrie-Morris-Campbell Co.
Huntington 7—Watts, Ritter & Co.
Parkersburg—Guthrie-Morris-Campbell Co.

**WISCONSIN**
Milwaukee 3—Neidhoefer & Co.

# Pave the Way Now for Tomorrow's Salesman!

By Lew Hahn

THE SALESMAN is America's Ambassador to the Court of Prosperity!

We have developed a production system which can be maintained only through intense and effective methods of advertising and selling. If the necessary jobs are to be created and maintained, it can only be through increased efficiency on the part of all those charged with responsibility for advertising and selling.

Unless the public can be induced to buy and consume freely the products of industry such production will have to be curtailed, with consequent unemployment.

The history of production and distribution in the United States has proven that as volume is increased, prices are lowered and quality improved.

Thus any hope of maintaining purchasing capacity and securing lower prices which will raise the standard of living must be conditioned upon the ability to sell swiftly and in larger volume.

This is a problem which concerns every man, woman, and child in the United States. Every housewife should be brought to conscious recognition that the man who invites her to buy is engaged in the effort to make more sure her husband's job and his continued ability to provide for her and her children.

If such a consciousness could be brought home to the people it would insure for selling folks an improved reception from all prospective customers. This would sharply raise the morale of those who must sell and would make selling jobs more popular.

With business leaders putting forth so much effort to insure postwar employment some attention should be given to influencing the public to recognize the vital importance to the public itself of effective selling. Instead of devoting so much of their advertising at this time to fairy tales of their future products, it would be intelligent for manufacturers to use some of their space to pave the way for the coming salesman.

Such campaigns—sensibly conducted—might do more to create understanding and support for American free enterterprise than a score of books on economics or a thousand speeches on its merits.

Once get the idea over to the general public of what really hangs on the hope of successful selling and every seller would be benefited much more than through any lone attempt to sell his own product.

It is worth trying and there is more than sufficient intelligence to do the job well!

they knew nothing but their overall costs.

The great development of factory cost accounting which occurred during those fifty years, has gradually revolutionized manufacturers' ideas about the cost of manufacturing particular products and their methods of pricing those products.

No such development has yet occurred in distribution. Perhaps, in the nature of the case, no strictly similar development can be expected. A good many complex factors are involved in the distribution of goods that have no parallel in factory production. For example, there is the important fact that, even under the very best management, the time of a retail employee can never be utilized so fully as the time of a factory employee engaged in straight-line production.

Yet, after all of the difficulties have been fully recognized, it still seems that more should be done toward determining actual distribution costs for units of sale.

Some important beginnings have been made—and these are sufficient to indicate that a great deal more *can* be done.

**Expense Figures Are Arbitrary**

It is obvious that some thousands of retailers selling many items at a variety of prices have no accurate idea of the real costs of selling those items. They may have departmentalized their businesses—but, within those departments, there is often a wide range of items and prices. And even in calculating expenses by departments, they have sometimes applied arbitrary percentages which bear only a very approximate relation to actual costs. I do not under-estimate the difficulties involved in computing those actual costs, but I do think we can get a great deal nearer to them than we are at the present time.

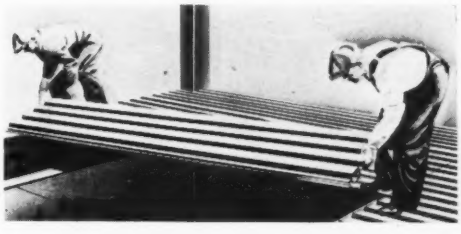
If percentages are applied to dollars in determining certain expenses which shall be charged against individual items as different as a chair, a dress, a pair of shoes, and a hair comb, all sold in the same store, the result will not be very close to actual costs incurred. Under some circumstances, in fact, calculations of this sort

(*Continued on page* 76)

# SELLING FLOORS and NON-SELLING FLOORS

## are *quickly interchangeable* on Q-FLOORS

Would you like to be able to move, interchange and expand departments . . . and do it quickly, quietly, and without muss? On Robertson Q-Floors you can do just that. They are designed to provide all-over electrical availability . . . the lack of which ties your departments where they are. You can point your finger at any spot on a Robertson Q-Floor, and an electrician in a matter of minutes can install an electrical outlet at that spot for power, light, telephone, business machines, electronic devices, etc. And if you need more, any 6" square of the floor's surface can sprout another outlet. All this means complete freedom in arrangement and re-arrangement. On Q-Floors, you're always prepared for future changes.



Q-Floors are steel structural sub-floors. They are placed on, and welded to the structural steel framework. Their cellular structure makes them light and strong. Concrete is poured directly on them to level the surface. Any floor covering or finish can then be applied.

***Quick***... 2 men can lay 30 sq. ft. of Q-Floor in 30 seconds. Your building will be finished on schedule, or before.

***Quiet***... Q-Floors are welded to the framework. No reveting, no hammering, no interference with store activities.

***Clean***... No messy wet materials to hold up building progress. No forms or shoring to erect and tear down.

## H. H. ROBERTSON COMPANY

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# Air Transportation Will Open New Worlds to Retailers

By Benjamin H. Namm,
*President, The Namm Store, Brooklyn, N. Y.*

**Merchandise and customers never available to the store before will soon be brought together in a world where distance is annihilated.**

SEVERAL answers have been given to the question "What is merchandising?" My personal preference is for this: "Merchandising consists of two simple acts. The first is to move goods towards people. The second is to move people towards goods."

In the movement of goods towards people, air-transportation is bound to play a growing part. In the movement of people towards goods, air-transportation is also destined to play an important role. There can be no doubt of the fact that, when the war is over, the aviation industry is in for a growth somewhat similar to that which the automobile industry enjoyed at the turn of the country. Returning home from the war will be hundreds of thousands of our boys who have learned how to fly. Other hundreds of thousands, both soldiers and civilians, will have become highly skilled in the servicing of airplanes and the administration of flying fields. They will constitute a great air-minded section of public opinion.

These men, and women too, will also demand personal airplanes. They will want thousands of new airports and, most especially, airparks, flightstops and air-harbors. With these small airports, the whole nation may be linked together in safe flying. It is mainly through airparks and flightstops, paralleling our Federal and State highways, that the airplanes will move goods towards people and people towards goods. I visualize the time, in a not far distant future, when a retail merchant seeking a quick glimpse of New York fashions, may fly his own plane here, do his buying and return to his store in a very few hours bringing with him, perhaps, samples for his more discriminating customers.

A number of stores have made application with the Civil Aeronautics Board to operate aircraft for the delivery of merchandise. They include: Filene's of Boston, Hecht Co. of Washington, Mandel Bros. of Chicago, Thalheimer Bros. of Richmond, and the Boston Store of Milwaukee.

There are approximately two million retail merchants in our country today. In this year of 1944, their volume of business will exceed sixty-five billions of dollars. Soon after the end of the war, annual retail volume is expected to top the hundred billion dollar mark. A very substantial portion of this volume will consist of so-called "fashion merchandise." In the movement of this merchandise, air-transportation is sure to figure prominently. In handling fashion merchandise, time is of the essence. The words fashion and newness are almost synonymous.

### An Age of Speed

In these modern days of the movies, the radio, and the press, and with television in the offing, every Main Street in America becomes a Fashion Center. The latest styles in apparel, the newest trends in home-furnishing, the most recent developments in the art of living—all become instantly revealed to Mr. and Mrs. John Q. Public. These items are heard over the air, thrown upon the screen and presented in print and color almost as soon as they appear upon the market. If speed is so much a part of the creation of demand, can it be any less a part of supplying that demand? Air transportation will go a long way towards providing the answer to that question.

A new phase of the airplane's importance to retail merchandising has recently been disclosed. It is the phase exploited so thoroughly by the Army and Navy in the present war—namely, the delivery of requisite supplies to the consumer from stock piles half a world away. It is this aspect of aviation which may revise many merchandising methods, particularly in stores remote from manufacturing sources. No longer will the merchant be dependent upon huge inventories to carry him through buying seasons. Manufacturers' warehouses, no matter where situated, are only a few hours away from any store in the United States and only a few more hours away from any store in the world. Air cargo rates as low as twenty cents per ton mile are freely predicted.

International trade must become increasingly important to us after the war. Let me offer the illustration of one foreign country with which I am familiar. Brazil is a country with a population of forty-five million people. In 1940, we exported a hundred million dollars of merchandise to Brazil. In that same year, we sent seven hundred million dollars of merchandise to Canada, which has a population of eleven million.

By this token, it would seem that Brazil alone offers us a potential market of several billions of dollars. It is with Brazil and with other Latin American countries that we shall conduct extensive air commerce.

Latin America with its exotic fruits, vegetables and flowers—with its valuable minerals and metals, with its rare medicinal supplies—will depend upon the airplanes which will be the supreme means of transportation to assure the retail distributor of many items which have been previously unmarketable at long range. I predict that this "specialty" use of air transportation will become standard procedure after the war.

# Here's a Tip on PLASTICS...

## from Your Wife!

IMAGINE YOUR WIFE baking a new kind of cake without a recipe! Or without the exact ingredients the recipe calls for!

Now transpose the situation to plastics—where precision is everything. Here again there's no substitute for the right 'recipe' to meet the needs of each plastics application, each group of specific requirements

Today the mere specification "plastics" is meaningless Plastics exist in endless variety Types within types. Each classification joins many desirable qualities. And limitations too There just isn't any one plastic to meet every need.

We specialize in *thermoplastics*—the cellulosic group—a distinct and versatile class of synthetics covering a wide segment—but a segment, mind you—of the plastics field. This is the group which is the most widely applied to civilian living.

The family name for one group of Celanese plastics is Lumarith, widely known for durability and limitless color range. Included are types of plastics—Lumarith C.A., Lumarith X and Lumarith E.C.—the initials signifying the plastic base. For instance, in these three cases, cellulose acetate, high acetyl cellulose acetate and ethyl cellulose, respectively.

Yet that's only the beginning of precision thermoplastics. The Lumarith C.A. group alone includes hundreds of formulations. Each emphasizes a class of properties in the finished product. Perhaps impact, tensile or structural strength, toughness, heat resistance, moisture resistance, dimensional stability, transparency, color, economical production. All these, and many more, can be had with varying emphasis upon one or more qualities.

Pioneering plastics 75 years ago, the Celanese plastics division has consistently stressed technical service, the key to outstanding results in plastics applications. Painstaking technical service assures precision selection of the right formulations. Architecturally speaking this is fully as important as care in planning the foundation of a building.

The essence of the Celanese technical service is a sense of responsibility for *all* plastics no matter whose. Here, a misapplication of any plastic is considered a "black eye" for the entire industry. We unfailingly commend the best material for the job, and we don't hesitate to rule out Lumarith when another material is indicated. In the interests of better products we suggest you urge your suppliers to talk to our Technical Service Department early in their plans. Celanese Plastics Corporation, The First Name in Plastics, a division of the Celanese Corporation of America, 180 Madison Avenue, New York 16, N. Y.

**LUMARITH***

*A Celanese* Plastic*

*Reg. U. S. Pat. Off.

HARDLY a department in any store, large or small, will be left unchanged after victory by wartime research and development in plastics.

Here are some samples of Monsanto research for war that have been making current headline news—but may well be making profits for modern retailers later on:

Of special interest in the *housewares department*, as well as in *radio* and *electrical appliances*, is Monsanto's "boilable" thermoplastic. With Cerex post-war consumers will have colorful products of all kinds that can take sterilizing temperatures. And because Cerex can be molded by the fastest and most economical methods it can offer reasonable prices as well.

The announcement of Styramic HT by Monsanto, specially developed for wartime radar usage, meant more help for Victory. And when it can be used for civilian purposes Styramic HT means better performance through higher heat resistance and better insulation for the postwar *radio* and *television* sets, resulting in more compact, more efficient design.

One of the plastic industry's greatest wartime achievements has been in the field of impression molding. Monsanto's contribution is Thalid, a resin for impregnating and laminating cloth, paper or wood veneers into large forms or panels! Little or no pressure or heat is required in the process, the dies are inexpensive, and the forms are light but strong, and can be given amazingly intricate shapes.

Impression molding will undoubtedly make great postwar contributions in the field of *radio* cabinets, and *cabinets* of all kinds, in *furniture*, and in *luggage*. It's even possible to bake a boat or a bob-sled with Thalid! In fact, this plastic, like others in the versatile Monsanto family, only

# REPORT on plastics for busy retailers

awaits the ingenuity of America's resourceful molders and fabricators to bring to full realization its great potentialities.

Of particular interest to the postwar homeowner is Vuelite, specially embossed cellulose acetate sheets for use as diffusing panels in fluorescent *lighting fixtures* . . . and Reinforced Vuelite, *shatterproof glazing* for storm sash, porches, greenhouses—originally developed by Monsanto in co-operation with U. S. Navy. It consists of two sheets of sturdy transparent Vuelite laminated with wire screening.

(And retailers can be sure that Vuepak, the beautiful, transparent, rigid, packaging material will be coming back in the post-war era with new improvements, better to display the beauties, enhance the charms, protect the quality, and speed the sales of post-war merchandise).

Something new for the *upholstery* department, the *wallpaper* department and the *draperies* department, the departments selling *rainwear*, *sports* outfits, *shower curtains*, and *tablecloths*, can be seen in Monsanto's new vinyl acetals. Originally developed for an interlayer for safety glass, this product has found important war service in replacing rubber in Army raincoats, hospital sheeting, and many other items formerly made from rubber sheeting or rubber coated fabrics. The beautiful, washable, brightly patterned, non-staining, serviceable materials this new kind of plastic makes possible will undoubtedly have tremendous consumer appeal.



Other Monsanto developments that will prove of interest sooner or later to retailers are the new qualities in RESIMENE (melamine) molding compounds and laminating resins which offer high heat resistance and light colors as special recommendations for *incandescent light fixtures, durable hardware, molded dishes* and *kitchen ware*. The new colorless RESIMENE for making durable, attractive overlays for wallboards (exterior or interior) and for furniture panels promises much of interest to the homemaker . . . and there's improved Lustron (polystyrene) molding compounds, which promise to be the most plentiful, most useful and most salable of postwar plastics, from bargain basement to luxury goods.

For more information on what Monsanto is doing in plastics, or for specific answers to your plastics questions, write: MONSANTO CHEMICAL COMPANY, Plastics Division, Springfield, Massachusetts.

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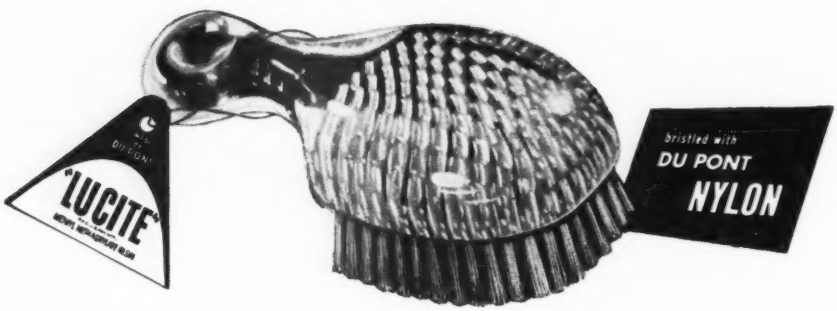
The large and versatile family of Monsanto Plastics includes: Lustron polystyrenes. Cerex heat resistant thermo-plastics. Vinyl acetals. Nitron cellulose nitrates. Fibestos cellulose acetates. Resinox phenolics. Thalid for impression molding. Resimene melamines. Forms in which they are supplied include: Sheets, Rods, Tubes, Molding Compounds, Industrial Resins, Coating Compounds, Vuepak rigid transparent packaging Materials.

MONSANTO
PLASTICS
SERVING INDUSTRY...WHICH SERVES MANKIND

## When it's made of

# DU PONT PLASTIC

## it's a more salable product!




Today, Du Pont plastics are being used by Uncle Sam in the fight for Victory. Tomorrow, countless consumer products will again be made of Du Pont plastics. Many of these plastics have been improved during wartime . . . some will be brand new.

Because consumers recognize the chemical leadership of Du Pont, products branded with the Du Pont name are purchased with the utmost confidence. Cognizant of the sales impetus thus contributed by the name Du Pont, American manufacturers will use tags and stickers to identify the Du Pont plastic of which their postwar articles are made.

This product identification will enable your sales personnel to capitalize on the prestige value of such well-known Du Pont plastics as "Lucite" and *nylon*.

Some of the items made of "Lucite" and nylon before the war were compacts, combs and brushes, kitchen utensils, tennis racquet strings, picture frames, costume jewelry, bag frames, umbrella handles, house furnishings and bathroom accessories.

During the postwar years ahead you will be able to offer your customers an even greater assortment of products made from these and other Du Pont plastics . . . because of Du Pont's continuous development of new and important plastics materials.

So, for faster turnover, specify articles made of Du Pont plastics. Du Pont is not only a name with which your customers are familiar but it is also a name which they know stands for highest quality and complete dependability.

E. I. du Pont de Nemours & Co. (Inc.), Plastics Dept., Arlington, N. J.

DU PONT
REG. U. S. PAT. OFF.

**DU PONT PLASTICS**

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

# This is an Adventure Story

By GEORGE K. SCRIBNER
President, The Society of the Plastics Industry, Inc.

PLASTICS are not simple. They are modern organic chemistry. Scientists say there are ninety elements of which all things are made—even we, the people. Nature specializes in oxygen, carbon, hydrogen, nitrogen and a few more when she makes the things that grow. Petroleum, coal, air, water, the flora of the fields and forests, and the fauna that roam them are made of these building blocks.

For countless ages man used what nature supplied with but minor and obvious changes. Then, a hundred years or so ago, he began to learn how to take apart the products of nature, and rebuild them, sometimes more to his own tastes and needs. Instead of getting indigo dye from plants he found he could make the same color better and more cheaply from coal tar.

At first he spent his efforts in duplicating nature's results—then as his knowledge and technique advanced he began to assemble new products which never occurred in natural form. The results have been sensational in the last few decades: new medicines, new fabrics, new foods, even new perfumes.

### Glimpse of New Horizons

And so it was natural to turn to new materials of construction. Instead of shellacs and natural gums for varnish, why not a new, laboratory-made base? Instead of rubber and pitch combinations with various fillers, why not a brand new chemical that would avoid all the drawbacks of the older two, perhaps give some new and startling qualities?

Men toiled, sweated, failed and tried again, for years on years, because there is no royal road to such discovery. After enough men broke their hearts for enough years something new began to emerge here and there. Each success was a sign post guiding the technician through the immediate shadows so he could erect his own sign post a little further on.

They called the new synthetic, organic materials of construction, plastics. First there came cellulose nitrate from Hyatt in 1868, then a long silence and phenol-formaldehyde from Baekeland in 1908, closely followed by Redman and Aylsworth with similar results. Again a long silence, during which the laboratories were seething with experiment. Urea came in the late twenties, somewhat like phenolics, but giving pastel colors because it had a water white resin instead of the brownish cast of the phenolic resin.

Cellulose acetate broke in a new class—the thermoplastics—about the same time. Thermoplastics, the heat softeners, do not permanently set or harden under heat as the thermosetting group do, as phenolics and urea do.

This last arrival came before the machinery of fabrication was ready. The old methods were not suited and new ones were merely ideas in the minds of the machinery engineers. Compression molding as used for the phenolics and ureas was too slow and cumbersome to make up for the increased cost of the new material—and so injection machines came into being. Again a slight pause for science to digest the new technique and in the late thirties came a flood of man-made molecules, new plastics, tailored to fit the demands of industry.

Today the word plastics covers synthetics for molding and shaping, liquids and solutions for coating and binding all sorts of things together. Each time the plastic adds its own qualities and hitherto untouched areas of application are opened up.

### Problems for Designers and Technicians

The flood of new materials has not by any manner of means made the present day plastics picture simple for the layman, or the future simple for the professional. If wall boards made with natural resins like lignin and plywood bonded with plastic glue are accepted in the brotherhood, our houses are already being built of plastics and will be even more so in the coming years. Paints and varnishes are depending on plastic bases; electrical wiring is old fashioned without it. Radios, electric irons, all sorts of household gadgets need plastics to make them usable.

It is an interesting exercise of the imagination to look around at the various materials we accept with-

out question to observe how many are plastic, and to wonder what we would do to replace them if plastics were withdrawn from the market, or never had been invented. That is a much easier exercise than to sit back and dream of all the new things to come which plastics will make possible.

It certainly is safe to say that a flood of new and helpful ideas will come from the lessons learned in this war, and that plastics, molded, sheeted, liquid, will have a prominent part in making them possible, and at a price that will guarantee them a market. To say what these applications will be would involve the ability to turn men's minds inside out, an ability few are blessed with, if that is the correct word to use.

Certainly we in the plastics business do not pretend to have the gift of inner sight. We are sure there will be an ever increasing tide of plastic applications because we have faith in the ingenuity of the American mind. We cannot specifically describe the way our materials will make better living go further down the economic scale and also make life more fun at the upper levels.

We are merely convinced that plastics of all kinds will expand in variety. That their peculiar ability of making other materials—metals, wood, and the like—more usable, will pose problems for the plastic industry in the line of mold design and handling methods. Engineering problems may turn our hair gray before its time, but their solution will guarantee a thoroughly enjoyable and varied life for us in the industry, as well as for people all over the world who will use plastics in ways that are now strange and unpredictable.

### Plans for Consumer Education

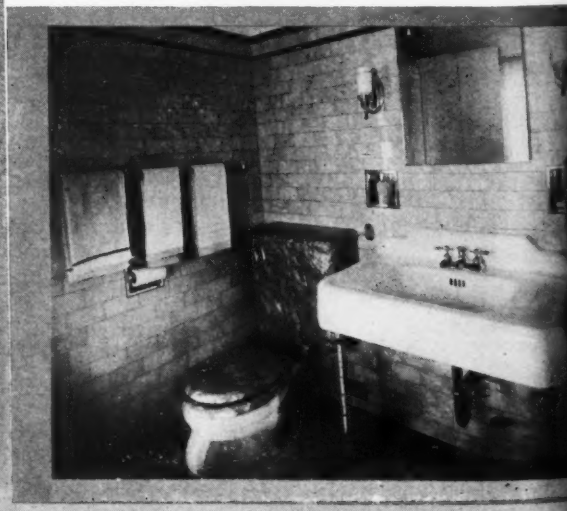
The plastics industry, represented by its trade association, The Society of the Plastics Industry, realizes the confusion that must surround the thinking of the layman on this subject. Informative labelling for recognizably plastic applications is well on its way. This handbook, and others, to follow, is designed to reduce as far as possible the complicated language of the organic chemist to intelligible English, particularly for that very important level of industry, the store buyer and salesperson.

If it can show them that there are many individual members of the plastic family, each with different characteristics, even personalities, just as there are in the metals family it would be worth while. If in addition, it can make the public and our contact with the public, the retailer, really acquainted with those individual plastic personalities, it will have performed a very desirable miracle. Today, we are embarrased too many times by the habit of labelling all our products "plastics", so when one falls down in some application the whole field is condemned. Many things are many times made of the wrong metal without all metals being blamed or discarded.

No one can hope that all plastics will always be properly chosen or designed. We only ask forbearance for the inevitable errors, and hope this handbook will make the reader better acquainted with us and our product so that patience is automatic.

Back in the days of the Model T Ford, Celluloid (cellulose nitrate) was used for side curtains. Transparent, they allowed a clear view of the road, kept cold winds out and let light in (Celanese Plastic Corp.)

One of the earliest uses of Pyralin (a cellulose nitrate plastic) was (and it still is) as a covering for toilet seats, towel bars, hamper tops, all found in the bathroom of today. The material lends itself to colorful pastels and "pearl" effects. (Du Pont)



Celluloid (cellulose nitrate), first of the trail-blazing plastics, is still used for most of the purposes shown here, although celluloid collars and cuffs have been lost in the march of time. (Celanese Plastic Corp.)

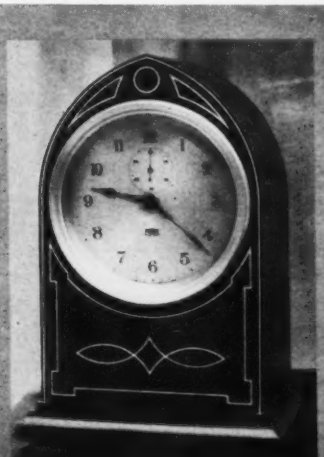
The use of molded plastics gave a revolutionary impetus to the merchandising of cameras. The reduction in cost and assembling operations made it possible to put a fifty-cent camera on the market in the late 1920's. Eastman Kodak's Baby Brownie came along a couple of years later. Designed by Walter Dorwin Teague, it was molded of Durez phenolic compound, which was developed to meet the requirement for a material that would not fog film. (Durez)

In 1917 F. C. Meacham, passing by the retail store of the Hemco Electric Co. in New York, noticed in the window an outlet plug which had been molded out of shellac. It was blistering in the boiling sun. He went into the store, asked for the socket in the window, and then crushed the heat-ruined object in his hands. When he left he had obtained an order to build a mold for the production of outlet plugs molded of heat-resistant phenolic compound. These were molded in 1920. Hemco was later sold to the Bryant Electric Co.

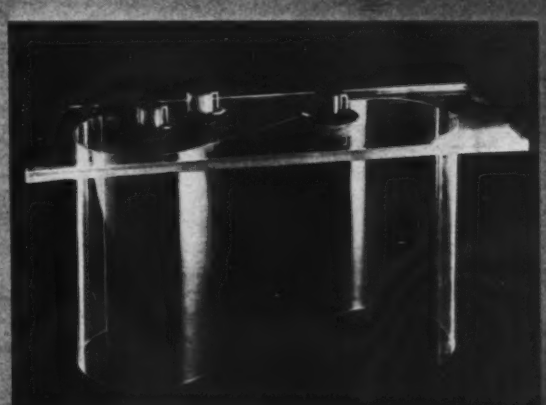
# ail Blazers . . .

One of the earliest uses of Plaskon urea was in this scale housing for the Toledo Scale Co. The urea plastics were developed in 1931, and added light and brilliant colors to the previously known characteristics of thermosetting (or heat-hardening) materials. (Libbey-Owens-Ford)

In 1929, the housing for the Poole electric clock was molded of Durez (phenolic compound) in several colors and color combinations. Wood veneer cases made at the same time have deteriorated and much of the veneer surface has come off, but the Durez cases are still in good condition.



The late Gilbert Rohde put Plexiglas (methyl methacrylate) to one of its earliest uses when he designed this coffee table for the Valley Furniture Co. The fluent, graceful lines of the table illustrate the special properties of the material to advantage. (Rohm & Haas)



# The Retailer's Job in Plastics

By HELEN K. MULHERN

No department store buyer will be properly equipped to enter the postwar competition for customers if he doesn't understand plastics a good deal better than most of us understand them today. Retailers and manufacturers agree on this point. Department store men are especially concerned, partly because they have experienced some merchandising failures with wartime items, partly because they know that some striking new developments in the plastics industry are likely to revolutionize their postwar stocks.

It is understandable that ignorance about plastics exists in the best department stores today, and an admitted fact that until now neither materials manufacturers nor store suppliers have made any serious effort to dispel it. One reason is that the war production job has taken most of their time and facilities. However, the materials manufacturers are making the effort now. With only 30 per cent of their total production going into civilian uses, they are awake to the need of preparing the public for the time when the other 70 per cent comes home from war. Certain unsatisfactory uses of their materials on the home front have deepened their concern. They want no more of that. Their advisory service departments are making every effort to prevent the misuse of plastics by molders and fabricators.

Where such misuses are due to ignorance the manufacturers have pretty good success. But even in these cases they are all too often asked for advice only after the item has proved unsatisfactory in consumer use. They can prevent the mistake from being repeated, but already some damage has been done. And of course the material manufacturer is powerless to do anything when the misapplication occurs in the hands of an unreliable resource which knowingly cheapens an article past the point of servieability.

### The Buyer's Need for More Information

What is too often missing from the situation is the control which should be exercised by the store buyer. It is his function to stand guard against merchandise that won't give satisfactory service. In some departments this has happily become an almost automatic function. The buyers have been dealing for a long time with familar materials, and with old, well established producers who have had generations to learn the proper handling of them. But in the case of all- or part-plastic articles they are buying from resources which are themselves still learning a new trade, and dealing with new and constantly changing materials.

Obviously, the buyer can't buy wisely unless he understands exactly what he is buying. Equally obviously, it is the responsiblity of the plastics manufacturer to provide him with information. It is essential that he should know there are many different varieties of plastics, that these varieties differ radically in characteristics and performance, and that he must know exactly which one has been used in the item he is handling. If he doesn't know these things, he is leaving it to the customer to test the article in use. That is not merchandising. It is gambling. No buyer cares for it. The point that especially worries the materials manufacturer is that an unsatisfactory experience with one plastic improperly used is likely to lead to a prejudice against all plastics for that purpose. Or it results in a prejudice against a particular plastic for every purpose. And many of the benefits and profits which should accrue to customer and store alike from the work of the plastics industry will be delayed or will escape completely unless the process of experiment and selection is properly completed at the buying end. For example, when the plastics manufacturer supplies sheets of his material to a fabricator, they are sheets of the proper thickness for the fabricator's purpose as he knows it. But if the fabricator decides to split the sheets the manufacturer cannot prevent it. The buyer must be well enough informed to refuse the merchandise.

### This Book Is the First Step

How can he learn what he needs to know? Most people feel sharp twinges of alarm when a plastics expert starts talking. The polysyllabled names of chemicals, the complicated descriptions of molding processes, even the curiously clumsy trade names that many of these materials bear, have a discouraging effect on the would-be learner. Yet all the facts there are to know about plastics could have been easily assimilated if the industry had developed at a slower pace. Instead, the developments have come so fast that experts themselves have been hard put to it to keep up to date. But if anybody believes that the plastics situation today is too confusing, he is underestimating the future. Today is the lull before the storm. It is a comparatively static period in which we have the opportunity to get the basic information that will enable us to understand tomorrow's merchandise.

Some store men have taken technical courses to learn about plastics. Few have the time for it; all realize the need for a shortcut. That is what the chart which appears in this book is intended to be. It was

prepared by the Society of the Plastics Industry, and every effort has been made to put into it the exact information the store buyer requires. To use it, a buyer needs to obtain from his supplier the trade name and type and class of plastic material used in an item. (The trade name alone is not sufficient. Some manufacturers use one trade name for several different plastics.) Then he refers to this chart to see if it is suitable for the purpose, and if any special precautions to customers should accompany its sale.

That is the minimum of information the buyer needs; it puts solid ground under his feet. As more of this merchandise appears, and as he grows more familiar with it, he will eventually be in a position to order to specifications if he wishes to. There are not many buyers today who would engage to lay down specifications for plastic merchandise. Yet they agree that even though he never does it, any buyer should know his merchandise that well. If he doesn't, he is not in a safe position to bargain about price.

### No Department Is Unaffected

Plastics cross every department line. That is the most striking thing about them. It appears that every buyer in the store will need knowledge of these materials. Some have more learning to do than others. The electric appliance man can probably rely on the refrigerator manufacturer to buy and use the most suitable plastic for refrigerator parts. Even so, the buyer has to know the selling angle involved in the use of the plastic—whether it reduces price without imparing serviceability, or whether it increases serviceability and deserves to be talked up.

But what about departments like housewares and giftwares? The buyers here will be called upon to make selections from hundreds of all-plastic items, from hundreds of resources, large and small. The array of new synthetic materials confronting them already numbers more than all the natural materials represented in their stocks.

Housewares buyers today know more about plastics than any other buyers in the store, because they have to deal more with them. And they are the group most aware of their need for more information. In general they are enthusiastic about plastics, but there is not one among them who hasn't had some serious disappointments. They found out a long time ago that certain plastics are ruined by boiling water; and they were justifiably irritated by having to learn this through the hard experience of having sold tea strainers made of such plastics. That kind of tea strainer won't be bought any more. Some buyers go on from there to decide that they won't buy any kitchen ware whatever of that material. Others, more reasonable, feel there is no reason why the decision should extend to low price cookie cutters and measuring spoons. It may be a habit of some customers to pour boiling water over such kitchen utensils, but it isn't necessary to do it, and simple instructions can prevent that practice. Meanwhile, the cookie cutter is bright-colored, inexpensive, and long lasting—a perfectly good application of the plastic in question. In this case the buyer's problem is to *sell* it correctly.

Here are two lemon squeezers. They look much alike, resembling glass. Each manufacturer describes his squeezer simply as "plastic." One, as it happens, costs twice as much as the other. But the cheaper one is polystyrene. This is a veritable miracle among plastics, and it is highly resistant to all acids *except* lemon juice. This particular case never got as far as a store buyer, for the reason that the careful maker of the lemon squeezers submitted them to the materials manufacturer for comment. But many misuses equally unfortunate have only been discovered after the customers put the items into use.

Wartime complicated the situation very seriously. In the early stages of the war plastics were called upon to substitute for metals and, very soon, only a limited number of plastics were available for civilian use. At this writing about 70 per cent of the output is going into military production. The types left available have by no means been adequate to meet the demands made upon them; and some fantastic things have happened. Ready-to-wear buyers would seem to have little concern with plastics, but they learned that it could happen to them when they had their experience with plastic dress zippers. Made of a thermoplastic, the zippers parted company with the dresses unless special care was exercised in laundering, cleaning and pressing. Result—a prejudice against "plastic" zippers. Yet when the military machine no longer requires all the output of some of the newer types of plastics, there will be available a thermoplastic material perfectly suitable for the fabrication of zippers and 100 per cent resistant to cleaning solvents and hot irons.

What is going to happen when the ready-to-wear buyer meets dresses with these zippers in them? Is she going to reach back in memory to her wartime experience and refuse the dresses because the zippers are not metal?

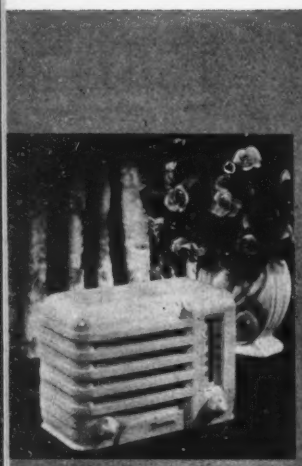
### Prejudices vs. Great Expectations

You can multiply these small prejudices by the number of departments in the store, and quickly appreciate the amount of bafflement that exists among buyers and customers. They have all read about the miracles accomplished by plastics—read, indeed, too much, about too many miracles. They believe that in some vague tomorrow everything they use and wear will be made of beautiful, indestructible, inexpensive plastics. But in the concrete case of the broken handbag frame, the warped compact that spills facepowder over everything, the disintegrating lipstick case, they see another side of the picture. They're willing to believe that a prefabricated bathroom made of plastic sections will glorify their postwar homes, but meanwhile they will reject the plastic cigarette case as a cheap wartime substitute for metal.

Is it all hopeless? The plastics industry doesn't think so. And store men of long experience know that the development of many materials and items that are taken for granted today was attended by just such confusion and mistakes. Eventually the situation straightens out; perhaps this one can be straightened out with fewer headaches than have beset, for instance, the rayon industry and all its customers.

The plastics manufacturers expect to work out in the coming year an informative labeling program which they hope will prevent the bad experiences that

(*Continued on page* 36)



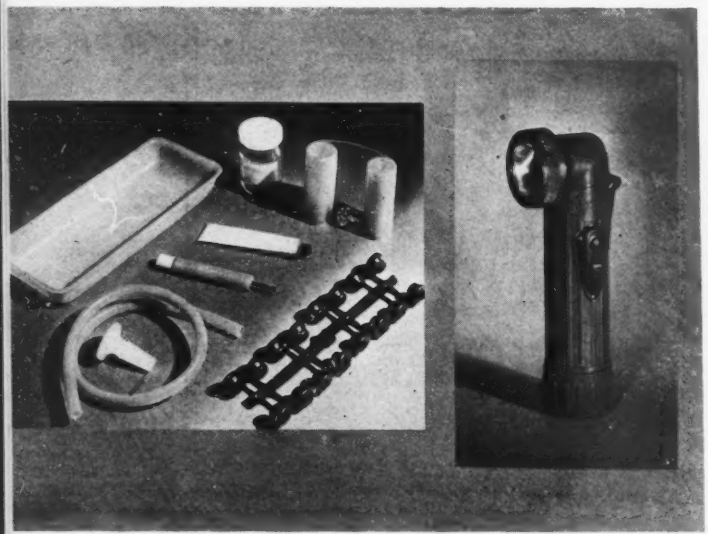
This radio case is molded of Bakelite urea. In addition to fulfilling mechanical requirements, the material has a hard, lustrous finish, and can be produced in non-fading whites, ivories, pastels, and brilliant colors. (Bakelite)

Two General Electric clocks with moldings of Plexiglas (methyl methacrylate) in pastel colors. The rims are sturdy, shatterproof, will retain their clarity. Here a beautiful material gets the designing skill and careful finishing which it deserves. (Rohm & Haas)

The millinery department sees practically every material used at one time or another in its merchandise. Plastics are no exception. Extruded Vinylite (vinyl chloride) is fabricated into a hat and trim. (Bakelite)

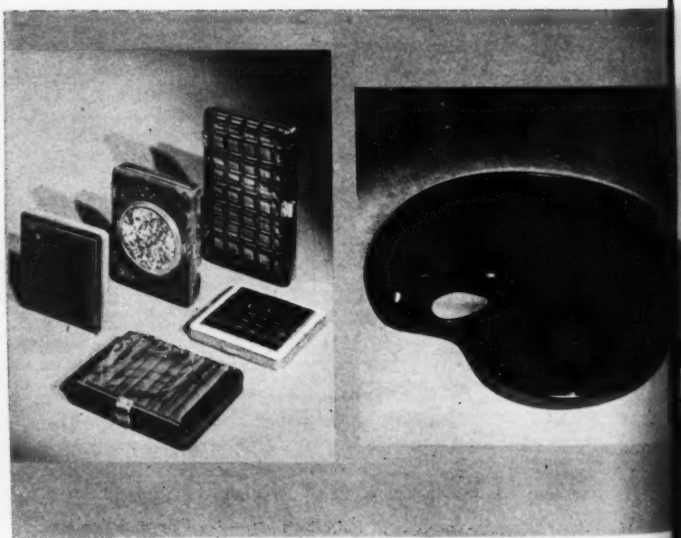
Catalin (cast phenolic) is used for this radio cabinet. The cast phenolic plastics have rich coloring and high lustre. They are not molding materials, but are supplied in various shapes for fabrication. (Catalin Corp.)

# PLASTICS — Today T



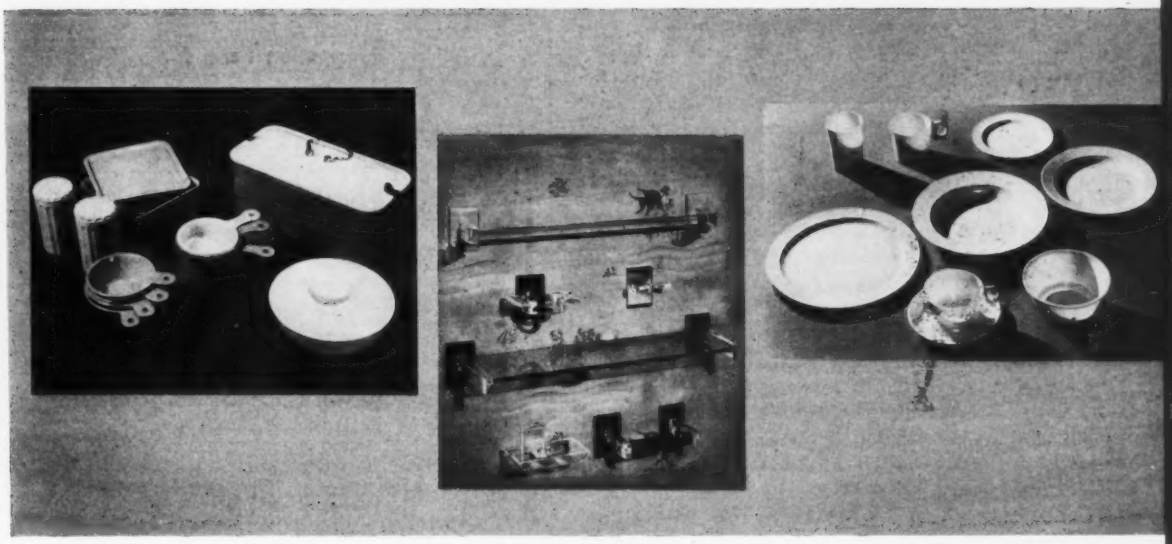
Polythene (polyethylene) is one of the lightest plastics. Flexible and tough, it has good resistance to water and moisture, excellent chemical inertness and electrical properties. These characteristics will be well utilized postwar in such items as ice cube trays, tubes, bottle stoppers, etc. (Du Pont)

This Signal Corps flashlight was designed with special attention to serviceability in cold weather. Ethyl cellulose was chosen for it because the material is tough and resilient and highly resistant to breakage even at exceptionally low temperatures. (Hercules Powder Co.)



Elaborate compacts and cigarette cases illustrate the design possibilities of fabricated plastic items. These are manufactured of cast phenolic resins, in interesting shapes and a variety of color effects. (Catalin Corp.)

"Tom Thumb" tray made of Makalot, a molded phenolic. It holds six glasses. The lightness of the plastic material made it possible to design the tray so that it can be conveniently held in one hand. (Makalot Plastics Corp.)



Kitchen accessories of Beetle (molded urea) are inexpensive, light-weight, colorful, strong. Drinking tumblers, measuring spoons, coffeepot handles, trays, fruit juicer parts, salt shakers, etc., are typical uses. (American Cyanamid)

These bathroom accessories are molded from Lucite (methyl methacrylate), the same material used in the bomber nose-pieces of today. They include tumbler and toothbrush holder, soap dish, towel rod, shelf, toilet paper holder. (Du Pont)

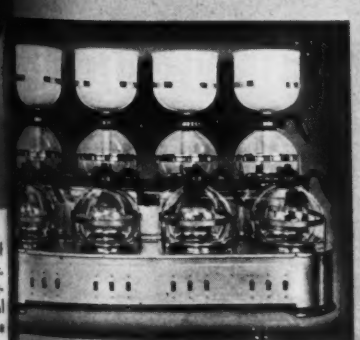
Tableware molded of Melmac (melamine plastic) resists moisture absorption, chemical attack and discoloration. It can be safely exposed to hot dishwater, and has high color appeal. Tableware of this type is now in use on Navy vessels and patrol bombers. After the war, molded melamines will be used for tableware for civilian use. (American Cyanimid)

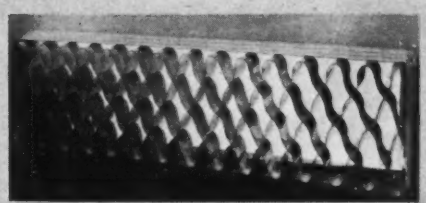
## ...Tomorrow...

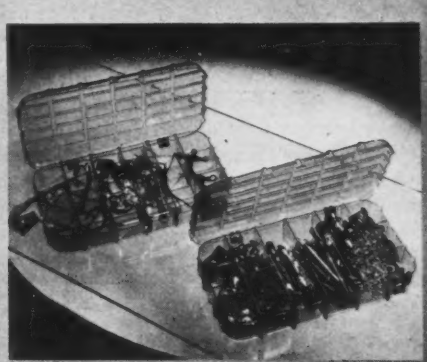
Coffee maker bowls and handles of Plaskon melamine. Melamine is one of the newest plastics, developed in 1939. While it resembles the urea plastics in most respects, it has the considerably higher heat resistance required for this type of application. (Libbey-Owens-Ford)

A lighting fixture designed to show the postwar possibilities of Lumarith (cellulose acetate) fixtures for fluorescent lighting. The material is chosen because: (1) it is inexpensive, (2) its light weight makes for economies in packing and shipping and ease of installation, (3) it is non-shattering, (4) its availablity in many colors makes it suitable for varying needs. (Celanese Plastic Corp.)

The armed services use these boxes of transparent Lumarith for utility kits and small parts containers. Factories use them to concentrate assembly parts and eliminate waste motion in production. Before the war their manufacturer (Bill De Witt Baits) sold them as fishing bait containers. They have a patented ribbed construction to give them great resistance to impact. (Celanese Plastics Corp.)







have occurred through customer misuse of their products. It has been suggested that they should supplement this program by instructive consumer advertising, designed to explain to laymen some of the many differences which exist in plastics. However, their major job certainly is the education of molders, fabricators and retailers to the point where misapplications of plastics in consumer merchandise will cease.

Plastic materials manufacturers offer advisory services for the use of the molders and fabricators who buy from them. Both ends of the industry are chiefly concerned now with war needs. After the war the experts will have all their time to give to study of the requirements of consumer use. And also when the war ends there is a good chance that the unreliable fabricators will be driven out of the field by the re-entry of firms who are now devoting themselves in whole or in part to military production. These fabricators and molders have gone through the rigorous production experience of working for the Army and Navy. The armed services have developed tests and standards which have certainly pushed the molding industry's development ahead by years.

### Using the Retailer's Plastic Chart

The early postwar years, however, will see continued experimentation. New molding methods and new materials will be tried out. Mistakes can happen. But they need never reach the consumer level if the department store buyer is equipped to perform responsibly as the consumer's purchasing agent.

The chart in this book, and the revisions of it which will be issued as necessary, can be the buyer's primer. But it must be supplemented by the buyer's insistence that his supplier identify the plastic used in every article he offers. If the buyer does not do this, the chart is useless. But if he does do it, he will probably find that the request alone is enough to prevent many unsatisfactory items from being offered to him at all.

After he knows the plastic used, a reference to the chart will show him what its characteristics and important limitations are. Obvious misuses are caught automatically. In questionable cases, simple tests of the merchandise suggest themselves—dunking in hot water, dropping on a hard surface, leaving in contact with radiator heat. Naturally the tests should be those of normal customer usage.

Then the buyer has a decision to make. Does there exist a limitation in the material which makes it unsatisfactory in normal service? If there does, he must decide whether the situation calls for a rejection of the item, or for a change in the customer's habitual way of caring for the item. We mentioned before the cookie cutters made of cellulose acetate, a thermoplastic which softens and goes out of shape in water above 160 degrees, but is usable for items which are exposed to water below this temperature. Shall the buyer give up the idea of stocking the cookie cutter, or shall he warn the customer not to pour boiling water over it? Would this latter procedure be better in view of the practical indestructibility, the brilliant, cheerful color, and the low price of the item?

When an order is placed, the supplier should be required to confirm the information about the material in writing. A form for this purpose is suggested.

**Information Form for Plastics Merchandise**

From .....
(Supplier)

To .....
(Purchaser)

Item .....

..... .....
(Quantity) (Buyer's Order No.)

Type of Plastic: .....

Trade Name of Plastic: .....

Characteristics in Use: .....

(Outstanding Qualities) .....

.....

State Cautions to Be .....

Observed in Use: .....

### The Training of Sales Personnel

Using such a form as this the buyer is ready to take up the second part of his job, which is the proper instruction of salespeople. On properly bought items there are not many cautions which need to be impressed upon salespeople. There are selling points which need to be brought to their attention—lightness, resistance to breakage, color, economy, strength, or whatever. If there are any precautions which the customer should observe in use, the best way to impress these on salespeople, most buyers feel, is by demonstration. The same goes for fixed ideas that should be corrected. Here is a bathroom tumbler, inexpensive and bright colored. Unfortunately, the notion has got around that it is unbreakable. It is not unbreakable, as a demonstration will prove, but it can be pointed out that the fragments are less dangerous than glass fragments. This particular plastic comb won't take a sterilizing. A teakettle of boiling water will quickly prove that and impress the point on the salesperson in a way that won't be forgotten.

Until the day when the buyer himself knows more about plastics and can be entirely certain that unsatisfactory items are not coming into his department, there is not much more than this that can be done about sales training. It is too much to ask salespeople to make up for merchandising mistakes, or to find their way through the complexities of a subject that the department executive does not understand. They can, however, be prevented from passing on misconceptions—such as the idea that plastics are just substitutes, or the equally mistaken one that they are indestructible.

One day the buyer will have this merchandise coming to him properly and informatively tagged, and he can relax, if he wants to, the hawk-eyed vigilance which he must now exercise. But the whole subject of plastics and what can be done with them is so fascinating that no merchandise man is likely to be bored by it for many years to come.

## PLASTICS FOR THE CONSUMER

The preparation of a chart such as this one involving a variety of materials is no simple assignment, as those who participated in its compilation know only too well. The purpose of the chart is to serve primarily as a guide. The ratings of the properties included are typical. Frequently, through special compounding the properties may be varied to meet special conditions. It is pointed out that each column represents a complete family of plastics which in itself has a wide variation of characteristics. Plastics consumers goods are made in various ways, including molding, fabricating, extrusion, etc. These methods may also have a bearing upon the properties of the finished piece.

Inasmuch as there are both rigid and non-rigid types of plastics, the chart is divided into two parts.

In using the chart, it should be kept in mind that all properties must be evaluated in considering a particular application. In some cases, color will be important, in others, heat resistance, in another, toughness or rigidity will be a factor. As in metals, a selection must be made on the basis of the end use.

It also must be kept in mind that research and development work is continuously in process on the various materials and on new types.

It is important, and you will find it invaluably helpful, to rely upon the knowledge of your supplier of plastics products for information and assistance. "One can't learn to play a piano in one easy lesson," neither can a chart, however well prepared, offer a complete course in plastics. If the chart serves as a primary reference, its preparation will have been justified.

# PLASTIC

## THERMOSETTING

| RIGID TYPES | | PHENOLIC | | | AMINO | | |
|---|---|---|---|---|---|---|---|
| FORM or CLASS | | CAST RESIN | MOLDED COMPOUND | LAMINATED | MOLDED UREAS | MOLDED MELAMINES | LAM TRAN |
| **TRADE NAMES** (Raw Materials) | | BAKELITE<br>CATALIN<br>MARBLETTE<br>PRYSTAL | BAKELITE<br>CO-RO-LITE<br>DUREZ<br>DURITE<br>HERESITE<br>INDUR<br>INSUROK<br>MAKALOT<br>NEILLITE<br>RESINOX<br>TEXTOLITE | CELERON<br>DILECTO<br>FORMICA<br>INSUROK<br>LAMICOID<br>MICARTA<br>PANELYTE<br>PHENOLITE<br>SPAULDITE<br>SYNTHANE<br>TEXTOLITE | BAKELITE<br>BEETLE<br>PLASKON<br>SYLPLAST | MELMAC<br>PLASKON<br>RESIMENE | FOR<br>LAN<br>TEX |
| **Ratings in Principal Properties** BASIS: **10** is best, **6** is suitable | **STRENGTH** To Withstand Impacts of Ordinary Use | 7<br>HARD & RIGID | 7<br>HARD & RIGID<br>HIGH IMPACT<br>GRADES AVAILABLE | 10<br>HARD & TOUGH | 6<br>HARD & RIGID | 7<br>HARD & RIGID | HA |
| | Resistance to Effects of **WATER** or Water Vapor | 9 | 8 | 9 | 6 | 9 | |
| | Resistance to Effects of Outdoor **EXPOSURE** | 5<br>DARKENS IN SUNLIGHT | 7<br>SURFACE CHALKS SLIGHTLY | 7 | 5<br>CHECKS AND CRACKS | 7 | |
| | ✻ Resistance to Adverse Effects of **HEAT** or High Temperature | 8<br>HARDENS & CHECKS | 10<br>250° TO 400° F | 10<br>250° TO 400° F | 8<br>TO 170° F | 9<br>TO 210° F | 160 |
| | Resistance to Adverse Effects of **HOUSEHOLD CHEMICALS** | 9<br>AVOID ALKALIS | 8<br>AVOID ALKALIS | 8<br>AVOID STRONG ALKALIS | 7<br>AVOID STRONG ACIDS AND ALKALIS | 8<br>AVOID STRONG ACIDS AND ALKALIS | AVOID AN |
| | Resistance to **SOLVENTS** Found in Cleaning Fluids, Paints & Varnishes | 10 | 10 | 10 | 10 | 10 | |
| | ‡ Range of **COLOR** | 9 | 7 | 7 | 8 | 8 | |
| | ‡ Brilliance of **COLOR** | 9 | 5<br>OPAQUE ONLY | 6 | 9 | 8 | |
| | ‡ **CLARITY OR TRANSPARENCY** | 6 | — | — | — | — | |
| **PRECAUTIONS** | | SURFACE DARKENS AND DISCOLORS ON AGING | NOT AVAILABLE IN PASTEL COLORS | | SENSITIVE TO WATER AND HEAT | | SO S AB |
| **TYPICAL USES** | | **AS MACHINED PARTS**<br>Buttons & Buckles<br>Cases: Clock & Radio, Small<br>Chessmen<br>Costume Jewelry<br>Desk Articles<br>Dice & Dominoes<br>Jukebox Trim<br>Knobs & Handles<br>Pipe Bits<br>Religious Goods | **AS MOLDED PARTS**<br>Bottle Caps<br>Buttons<br>Cases: Clock, Radio & Camera<br>Caster Wheels<br>Containers and Boxes, Small<br>Dispensing Devices<br>Display Items<br>Electrical Appliances and Wiring Devices<br>Hearing Aids<br>Instrument Cases<br>Knobs & Handles<br>Pencils<br>Radio Parts<br>Razors<br>Safety Goggles<br>Safety Helmets<br>Surgical Instruments<br>Telephone Equipment<br>Thermos Bottle Caps<br>Toys<br>Trays | **AS FORMED OR FABRICATED SHEETS, RODS OR TUBES**<br>Caster Wheels<br>Display Items<br>Electrical Appliances & Insulation<br>Radio Parts<br>Refrigerator Door Liners<br>Refrigerator Breaker Strips<br>Safety Helmets<br>Telephone Equipment<br>Trays | **AS MOLDED PARTS**<br>Bottle Caps<br>Buckles<br>Buttons<br>Cases: Clock and Radio<br>Containers and Boxes, Small<br>Coasters<br>Cosmetic Containers<br>Dispensing Devices<br>Display Items<br>Electrical Appliances and Wiring Devices<br>Kitchenware<br>Knobs & Handles<br>Lighting Reflectors<br>Religious Goods<br>Salt, Pepper Shakers<br>Scoops<br>Tableware<br>Thermos Caps<br>Toys<br>Trays | **AS MOLDED PARTS**<br>Buttons<br>Electrical Insulation<br>Tableware<br>Trays | AS F<br>Light Signs |

# TICS FOR THE CONS

## THERMOPLASTIC

| AMINO | | CELLULOSIC | | | | Acrylics | Polyst |
|---|---|---|---|---|---|---|---|
| LAMINATED TRANSLUCENT | LAMINATED OPAQUE | CELLULOSE NITRATE | CELLULOSE ACETATE | CELLULOSE ACETATE BUTYRATE | ETHYL CELLULOSE | | |
| UREAS OR MELAMINES | | | | | | | |
| FORMICA<br>LAMICOID<br>TEXTOLITE | DAYSTROM<br>FARLITE<br>FORMICA<br>MICARTA<br>PANELYTE<br>PARKWOOD<br>REALWOOD<br>TEXTOLITE | CELLULOID<br>NITRON<br>NIXONOID<br>PYRALIN | CHEMACO<br>FIBESTOS<br>KODAPAK<br>LUMARITH<br>NIXONITE<br>PLASTACELE<br>TENITE I<br>VUEPAK | TENITE II | ETHOCEL<br>ETHOFOIL<br>LUMARITH E.C.<br>NIXON E.C. | LUCITE<br>PLEXIGLAS | BAKEL<br>CEREX<br>LOALIN<br>LUSTR<br>POLYFI<br>STYRA<br>STYRA<br>STYRO |
| 7<br>HARD & RIGID | 9<br>HARD SURFACE | 10<br>TOUGH AND RESILIENT | 9<br>TOUGH AND RESILIENT | 9<br>TOUGH AND RESILIENT | 10<br>TOUGH & RESILIENT EVEN WHEN COLD | 7<br>TOUGH & RIGID | 7<br>HARD & |
| 8 | 9 | 9 | 7 | 8 | 8 | 10 | 1 |
| 7 | 6 | 6<br>DISCOLORS UNLESS PIGMENTED | 9 | 9 | 7 | 10 | YELL<br>CHI |
| 9<br>160° F—200° F | 9<br>TO 220° F | 6<br>TO 160° F COMBUSTIBLE | 8<br>135° F—170° F | 8<br>135° F—170° F | 8<br>135°-180° F. | 9<br>170° to 200° F. SOME TYPES WITHSTAND 225° F | CERTAIN T<br>STAND O |
| 7<br>AVOID STRONG ACIDS AND ALKALIS | 8<br>AVOID STRONG ACIDS AND ALKALIS | 8<br>AVOID ALKALIS | 6<br>AVOID STRONG ACIDS AND ALKALIS | 6<br>AVOID STRONG ACIDS AND ALKALIS | 7<br>AVOID ACIDS | 9 | AV<br>CITRU |
| 10 | 10 | 9<br>AVOID STRONG ALCOHOL | 8<br>AVOID ALCOHOL AND PAINT REMOVER | 7<br>AVOID ALCOHOL, PAINT REMOVER | 5<br>AVOID OILS, FATS, TURPS, CLEANERS, ALCOHOL | 9<br>AVOID PAINT REMOVER AND STRONG ALCOHOL | AVOID FAI<br>CLEA |
| 8 | 7 | 10 | 10 | 9 | 9 | 9 | |
| 8 | 7 | 9 | 9 | 9 | 7 | 10 | |
| — | — | 8 | 8 | 8 | 7 | 10 | |
| SOME GRADES SENSITIVE TO HEAT ABOVE 160° F | | BURNS VIGOROUSLY WHEN IGNITED | SLIGHT SHRINKAGE OR WARPING ON AGING OF THE SOFTER COMPOUNDS | | SENSITIVE TO OILS, FATS AND SOLVENTS | | |
| **AS FORMED OR FABRICATED SHEETS**<br>Lighting Fixtures<br>Signs, Illuminated | **AS SHEETS VENEERED ON PLYWOOD OR FIBERBOARD**<br>Architectural Trim, Panels<br>Tops for Tables, Counters, Dinettes, Kitchen Work Surfaces, & Bars<br>**MOLDED OR FABRICATED**<br>Refrigerator Door Linings & Breaker Strips | **FORMED OR FABRICATED SHEET, FILM, ROD OR TUBE**<br>Artificial Limbs<br>Brushes, Buckles<br>Coverings: Toilet Seat, Hamper Top, Chart Cases<br>Dice, Dominoes, Dolls, Drafting Instruments<br>Fountain Pens, Golftees<br>Hairpins, Handles<br>Mallets, Movie Film<br>Novelties, Pencils<br>Piano Keys,<br>Printed Items<br>Ping-Pong Balls<br>Protective Covers<br>Shoe: Heel Covers, Horns, Shoe Lace Tips<br>Soap Dishes, Spectacle Frames, Store Price Signs, Transparent Windows, Tool Handles, Toys<br>Umbrella Handles | **MOLDED PARTS**<br>Automobile Hardware<br>Barrettes, Bobby Pins<br>Beads, Beer Scrapers<br>Bracelets, Buckles<br>Cigarette Boxes, Clothes Pins, Coat Hangers, Compacts, Combs, Cocktail Picks, Costume Jewelry, Crochet Hooks, Curtain Fixtures<br>Darning Eggs, Display Boxes, Dolls, Dresser Sets<br>Earrings<br>Fishbait, Flashlight Cases<br>Garter Clasps, Goggles, Golftees<br>Hearing Aids, Oil Cans<br>Measuring Cups, Pencils, Powder & Rouge Boxes<br>Razors, Scoops<br>Salt & Pepper Shakers<br>Steering Wheels<br>**EXTRUDED OR BLOWN**<br>Christmas Tree Ornaments<br>Edge Trim for Furniture and Stairs<br>**SHEET, FILM, FOIL**<br>Containers, Cosmetic Boxes<br>Display Boxes, Lamp Shades<br>Packaging, Novelties, Windows<br>Safety Photo or Movie Film | **MOLDED PARTS**<br>Same as for Cellulose Acetate<br>**EXTRUDED SHAPES**<br>Same as for Cellulose Acetate | **MOLDED PARTS**<br>Military Applications<br>**EXTRUDED SHAPES**<br>Same as for Cellulose Acetate<br>**COATING ON PAPER**<br>Catalog Covers<br>Packaging Papers<br>**SHEET, FILM FOIL**<br>Transparent Containers | **FABRICATED SHEET, TUBE AND ROD**<br>Beads, Bracelets<br>Compacts, Costume Jewelry, Dials, Dresser Sets, Display Boxes & Supports<br>Eyeshields<br>Furniture and Trim<br>Glazing<br>Handbag Frames and Ornaments<br>Picture Frames<br>Signs, Illuminated<br>Table Accessories<br>Umbrella Handles<br>Watch Crystals<br>**MOLDED PARTS**<br>Artificial Eyes<br>Automobile Ornaments<br>Boxes: Cigarette, Jewel, Display<br>Buttons, Buckles<br>Comb and Brush Backs,<br>Contact Lenses, Cosmetic Containers, Dentures<br>Flashlight Lenses, House Numerals, Instrument Dials & Covers, Optical Lenses, Reflector Buttons, Table Accessories, Tumblers<br>Tooth Brush Handles | Automol<br>and D<br>Bathroo<br>Bottles<br>Bottle C<br>Chemica<br>Combs<br>Cosmeti<br>Costume<br>Display<br>Kitchen<br>Lighting<br>Lipstick<br>Novelti<br>Photogra<br>Equip<br>Radio C<br>Radio In<br>Radio K<br>Refriger<br>Salt and<br>Toys |

# CONSUMER

## THERMOPLASTIC

| ETHYL CELLULOSE | Acrylics | Polystyrene | VINYL | | Po |
|---|---|---|---|---|---|
| | | | VINYL CHLORIDE CO-POLYMERS | VINYLIDENE CHLORIDE | |
| ETHOCEL<br>ETHOFOIL<br>LUMARITH E.C.<br>NIXON E.C. | LUCITE<br>PLEXIGLAS | BAKELITE<br>CEREX<br>LOALIN<br>LUSTRON<br>POLYFLEX<br>STYRALOY<br>STYRAMIC<br>STYRON | VINYLITE | SARAN | |
| 10<br>TOUGH & RESILIENT EVEN WHEN COLD | 7<br>TOUGH & RIGID | 7<br>HARD & RIGID | 8<br>TOUGH & RIGID | 8<br>TOUGH AND WIRY | T<br>ELA |
| 8 | 10 | 10 | 10 | 10 | |
| 7 | 10 | 6<br>YELLOWS AND CHECKS | 7<br>TENDS TO DARKEN | 7<br>TENDS TO DARKEN | |
| 8<br>135°-180° F. | 9<br>170° to 200° F. SOME TYPES WITHSTAND 225° F. | 8<br>CERTAIN TYPES WITHSTAND OVER 212° F | 7<br>130° TO 145° F | 8<br>150° TO 180° F | A |
| 7<br>AVOID ACIDS | 9 | 9<br>AVOID CITRUS JUICE | 10 | 10 | A |
| 5<br>AVOID OILS, FATS, TURPS, CLEANERS, ALCOHOL | 9<br>AVOID PAINT REMOVER AND STRONG ALCOHOL | 6<br>AVOID PAINT REMOVER CLEANERS | 9<br>AVOID PAINT REMOVER AND CARBON TET. | 10 | |
| 9 | 9 | 8 | 9 | 7 | |
| 7 | 10 | 9 | 9 | 7 | |
| 7 | 10 | 9 | 7 | — | |
| SENSITIVE TO OILS, FATS AND SOLVENTS | | | | | EN<br>T |
| **MOLDED PARTS**<br>Military Applications<br>**EXTRUDED SHAPES**<br>Same as for Cellulose Acetate<br>**COATING ON PAPER**<br>Catalog Covers<br>Packaging Papers<br>**SHEET, FILM FOIL**<br>Transparent Containers | **FABRICATED SHEET, TUBE AND ROD**<br>Beads, Bracelets<br>Compacts, Costume Jewelry, Dials, Dresser Sets, Display Boxes & Supports<br>Eyeshields<br>Furniture and Trim<br>Glazing<br>Handbag Frames and Ornaments<br>Picture Frames<br>Signs, Illuminated<br>Table Accessories<br>Umbrella Handles<br>Watch Crystals<br>**MOLDED PARTS**<br>Artificial Eyes<br>Automobile Ornaments<br>Boxes: Cigarette, Jewel, Display<br>Buttons, Buckles<br>Comb and Brush Backs, Contact Lenses, Cosmetic Containers, Dentures<br>Flashlight Lenses, House Numerals, Instrument Dials & Covers, Optical Lenses, Reflector Buttons, Table Accessories, Tumblers<br>Tooth Brush Handles | **MOLDED PARTS**<br>Automobile Knobs and Dials<br>Bathroom Fixtures<br>Bottles<br>Bottle Caps and Pourers<br>Chemical Containers<br>Combs<br>Cosmetic Containers<br>Costume Jewelry<br>Display Boxes<br>Kitchen Accessories<br>Lighting Fixtures<br>Lipstick Holders<br>Novelties<br>Photographic Equipment<br>Radio Cabinets<br>Radio Insulators<br>Radio Knobs<br>Refrigerator Knobs<br>Salt and Pepper Shakers<br>Toys | **EXTRUDED SHAPES AND FILAMENTS**<br>Edge Trim<br>Woven Handbags, Woven Upholstery, Woven Window Screens<br>**SHEET, FILM AND FOIL**<br>Cards, Drafting Instruments, Eye Shades & Protectors, Lighting Fixtures, Phonograph Recording Disks, Packaging<br>**MOLDED PARTS**<br>Closures<br>Combs<br>Phonograph Records<br>Toothbrush Handles | **EXTRUDED TUBE AND FILAMENTS**<br>Belts & Suspenders<br>Cordage & Rope<br>Fishline<br>Pipe & Tube for Air, Water, Fuel & Chemicals<br>Upholstery<br>Woven Window Screens<br>**FILM & FOIL**<br>Furniture Webbing, Packaging, Metal Parts<br>**MOLDED PARTS**<br>Chemical Wares Fittings for Pipe and Tube | Bris<br>Co<br>Fis<br>Wi<br>Ele |

| | Polyamide | Casein |
|---|---|---|
| E | | |
| | NYLON | AMEROID |
| | 10<br>TOUGH AND ELASTIC: SINEWY | 7<br>HORNLIKE |
| | 8 | 5<br>ABSORBS |
| | 8 | 5<br>SHORT EXPOSURE SATISFACTORY |
| F | 10<br>TO 320° F AT LOW LOAD | 8<br>SOFTENS AT 200° F |
| | 9<br>AVOID STRONG ACIDS | 5<br>AVOID ACIDS AND ALKALIS |
| | 10 | 10 |
| | 7 | 9 |
| | 7 | 9 |
| | — | 6 |
| | EMBRITTLES AT CONTINUOUS HIGH TEMPERATURES | |

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**EXTRUDED SHAPES AND FILAMENTS**

Bristles for Brushes
of All Sorts:
Hairbrushes
Paint Brushes
Tooth Brushes
Cordage & Rope
Fishlines
Window Screens

**MOLDED PARTS**

Electrical Devices

**MACHINED PARTS**

Buckles
Buttons
Cigarette Holders
Crochet Hooks
Knitting Needles
Notions

## Notes on Chart Values

✻ Some plastics will withstand intermittent heat, others prolonged exposures. The conditions the applications will be exposed to must therefore be taken into account.

‡ In evaluating the colors the following system was used:

I. **Range of color:** #6 was assigned to material available only in opaque plain colors; one point was added for each additional range factor. Their factors being (a) transluscency, (b) transparency, (c) availability of mottle, (d) geometric configurations.

II. **Brilliance of color:** #10 was assigned to transparent plastics having a water white base capable of accepting any color ingredient without modifying its color; one point was deducted for each of the following reasons: (a) slightly dulled, (b) dulled, (c) seriously dulled. Additional points were subtracted for transluscency and opacity because of their effect on the depth of color.

III. **Clarity and/or transparency:** Rated on a comparative basis depending upon their light transmission and haze value.

**Prepared by**

**THE SOCIETY OF THE PLASTICS INDUSTRY, INC.**

**295 Madison Avenue**
**New York 17, N. Y.**

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# PLASTICS FOR THE CONSUMER

## NON-RIGID TYPES

| FORM or CLASS | | CELLULOSE NITRATE | ACRYLICS | POLYETHYLENE | VINYL CHLORIDE POLYMERS AND CO-POLYMERS | POLYVINYL BUTYRAL | POLYAMIDE |
|---|---|---|---|---|---|---|---|
| **TRADE NAMES** | | FABRIKOID | (n-BUTYL METHACRYLATE POLYMER) PRIMAL RHOPLEX | POLYTHENE | GEON VINYLITE | BUTACITE BUTVAR SAFLEX VINYLITE | NYLON |
| | **STRENGTH** Tear Resistance | COATINGS ONLY | COATINGS ONLY | 8 | 9 | SAFETY GLASS INTER LAYER AND COATINGS ONLY | 10 |
| **Ratings in Principal Properties** BASIS: **10** is best **6** is suitable | Resistance to Effects of **WATER** or Water Vapor | 10 | 10 | 10 | 10 | 9 | 8 |
| | Resistance to Effects of **ELEVATED TEMPERATURES** | 6 | 9 170° F—200° F | 9 170° F—210° F | 8 | 9 | 10 |
| | Resistance to Effects of **LOW TEMPERATURES** | 9 | 9 | 10 | 9 | 7 | 9 |
| | Resistance to Effects of Outdoor **EXPOSURE** | 9 | 10 | 10 | 8 | 9 | 9 |
| | Resistance to Adverse Effects of **HOUSEHOLD CHEMICALS** | 8 | 10 | 10 | 10 | 8 | 10 |
| | Resistance to **SOLVENTS** Found in Cleaning Fluids, Paints & Varnishes | 9 AVOID STRONG ALCOHOL | 8 AVOID PAINT REMOVER AND STRONG ALCOHOL | 8 AVOID CLEANERS TURPENTINE AND GASOLINE | 9 AVOID CARBON TETRACHLORIDE & PAINT REMOVER | 7 AVOID CARBON TETRACHLORIDE AND TURPENTINE | 10 |
| | Range of **COLOR** | 10 | 10 | 9 | 9 | 9 | 9 |
| **PRECAUTIONS** | | FLAMMABLE | | SENSITIVE TO CLEANING FLUIDS, GASOLINE AND TURPENTINE | | SUSCEPTIBLE TO ALCOHOL | |
| **TYPICAL USES** | | **COATINGS ON PAPER or FABRIC**<br>Automotive Uses<br>Binding<br>Trim<br>Upholstery<br>Winter Front Material<br>Wiring<br>Bookbinding<br>Brief Cases<br>Card Cases<br>Card Table Covers<br>Case Coverings<br>Catalog Covers<br>Comb Cases<br>Draw Sheets<br>Furniture Upholstery<br>Handbags<br>Ladies' Belts<br>Leather (artificial)<br>Luggage<br>Pocketbooks<br>Slippers<br>Tablecloths<br>Table Mats & Pads<br>Toys<br>Washable Wall Covering<br>Window Shades | **COATINGS ON LEATHER, CLOTH & PAPER**<br>Special Finishes | **EXTRUDED SHAPES AND FILAMENTS**<br>Note: Not yet available to Consumers. Will share in uses now filled by vinyl chloride, vinylidene chloride and polyamids, where properties and cost are favorable. Present uses entirely in radio, radar and related applications as insulation.<br>**MOLDED PARTS**<br>Note: When available will compete with vinyls and cellulosics | **EXTRUDED SHAPES AND FILAMENTS**<br>Channel<br>Belts & Suspenders, Electric Wire Insulation, Fabrics, Tubing<br>**COATED CLOTH & PAPER; SHEET AND FOIL**<br>Aprons, Bowl Covers, Crib Sheets, Dress Shields, Garment Bags, Hand Bags, Lamp Shade Covers, Laundry Bags, Linen Folders, Millinery, Non-allergic Pillow Covers, Playing Cards, Packaging, Raincoats, Shower Curtains, Sports Jackets, Tobacco Pouches, Umbrellas, Window Curtains, Washable Wallpaper<br>**SHEET, FILM AND FOIL ONLY**<br>Household Rubber Goods, Millinery, Packaging, Refrigerator Bags, Shoe Parts, Wallets<br>**MOLDED PARTS**<br>Electric Connector Plugs | **SHEET & FILM**<br>Safety-Glass Interlayer<br>**COATINGS ON PAPER & CLOTH**<br>Packaging<br>Raincoats<br>(Also other applications similar to those filled by vinyl chloride resins) | MILITARY APPLICATIONS ONLY AT PRESENT |

# A Capsule Encyclopaedia of the Plastics Industry

PLASTICS are already on their way into the post-war world. Soon they will be available in endless variety for literally thousands of consumer uses. They will have a definite place, along with metal and glass products, in filling the rapidly growing demands of the American public. They represent tremendous technical advances by a relatively new, complex, and diversified industry. They are one of the great production and merchandising stories of our time.

## BY WAY OF DEFINITION

**Plastics,** to the layman, are synthetic materials which can be molded or fabricated into finished articles with relative ease. Within the industry the term plastics is also applied to materials which may be cast, laminated, or machined, or used as coatings and adhesives. The characteristics which all plastics have in common are light weight and high strength in proportion to weight; good insulating properties; and colors which go all the way through the material. In other respects they differ greatly from each other. Their varying characteristics make the selection of the right plastic for a given use a matter of exacting choice.

**Resins** are the basic chemical mixtures from which the plastic molding powders, sheets and tubes are made. The term resins is sometimes used synonymously with the term plastics.

**Fillers** are materials added to the plastic mixture to serve a specific purpose, as to increase resistance to shock, impact, or heat. Wood flour is the filler used for general purposes; some others are chopped or shredded cloth, paper pulp, graphite, asbestos, cotton, etc. Sometimes combinations of fillers are used.

**Plasticizers** are materials added to the resins to make molding easier; to make them pliable; sometimes to toughen them.

**Thermoplastic** and **Thermosetting** are terms which describe the two major types of plastics. *Thermo* means heat.

A thermo*plastic* material is one which is softened by heat and is hardened into shape by cooling. Theoretically this process of softening and hardening may be repeated indefinitely. A thermoplastic is resilient, and consequently does not break easily. Because it is softened by heat, articles made of it will warp if frequently exposed to scalding water, and most of them will soften up to the point of uselessness if subjected to boiling. In manufacturing, the thermoplastic material has the advantage of being quickly and economically molded; and because the material can be softened and reshaped over and over again, wastage is held to a minimum.

The thermo*setting* plastics, on the other hand, are hardened into permanent shape by the application of heat and pressure. Once this type of material is shaped it cannot be softened again and reshaped. Therefore it keeps its shape in use. It is hard and rigid, and consequently breakable, though generally more resistant to breakage than glass or pottery of the same thickness. The cost of manufacturing a given article from a thermosetting plastic is usually higher than the cost of manufacturing the same article of a thermoplastic, although the thermosetting materials themselves are sometimes less expensive. The first thermosetting plastic ever developed was Bakelite, in 1909. (First of all commercially developed plastics was Celluloid, in 1869.)

**Note:** The distinctions developed above between the thermoplastic and thermosetting plastics are applicable to all the merchandise coming into department stores now, at the end of 1944. How long these lines will be clearly drawn is another question. Within the past few months at least two thermoplastic materials have been announced which have heat resistance equal to that of most thermosetting plastics.

This kind of continuous improvement is characteristic of man-made compounds. Chemists are constantly at work on new formulas to meet specific needs and to overcome the limitations of a material. No plastic material remains very long at a competitive disadvantage if the chemists can prevent it.

## BY WAY OF TECHNICAL DETAIL

The maker of plastic materials supplies these materials to molders and fabricators of finished articles in several forms. For articles which are to be manufactured by molding, the plastic material is usually in powder form. The powder may be formed into pellets or tablets, called preforms, which make quantity measurements more accurate. For articles which are to be manufactured by other methods than molding, the manufacturer supplies the material in sheets, rods or tubes, whichever is best suited to the purpose. (Not all plastics, however, are available in all forms.)

There are four common methods of molding; two used for thermosetting materials and two for thermoplastic materials.

**Compression Molding:** This is used primarily to form thermosetting (heat-hardening) materials into

finished articles. A mold in the shape of the article is filled with the compound, then subjected to hydraulic pressure, ranging from 1,000 to 10,000 pounds per square inch. At the same time heat, usually from steam, is applied. Recently, high-frequency radio waves have been used to pre-heat materials before they are placed in the mold for final heating and shaping.

**Transfer Molding:** This method, for thermosetting materials, is used in the manufacture of complicated parts which employ inserts—metal pieces that are molded right into the finished products. Compression molding presses are used, but instead of being loaded directly into the mold cavity, the plastic material goes first into a transfer chamber or pot. Here it is subjected to pressure and heat sufficient to bring it to a semi-liquid state, after which it flows into the mold cavity itself, where the hardening process is completed. By this method the material flows evenly into all the parts of a complicated mold.

**Injection Molding:** This process is used for the manufacture of finished articles from thermoplastic (heat-softening) materials. The compounds are softened by heat and pressure (up to 30,000 pounds per square inch) and then forced out of the heating chamber into closed molds which have been cooled. Cooling solidifies the plastic and it is removed from the mold in the desired shape. Leftover material around the injection mold opening is removed and returned to the heating chamber. A finishing operation is usually necessary.

**Extrusion Molding:** This is a method used for forming thermoplastic materials into moldings, tubing, pipe, wire covering, etc. The plastic is squeezed out continuously through a die of the required size and shape. As the material leaves the die it is often fed through an elongated water trough for hardening. It then emerges on a continuous belt which runs at a speed corresponding with the flow from the extruder. After hardening it is cut into regular lengths. To make wire coating, the material is extruded around a continuing length of wire or cable and rolled on to drums after cooling.

**Laminating:** This is the process by which such plastics products as table tops and wall panels are manufactured. Heat and pressure are applied to layers of sheet material that have previously been impregnated with a plastic compound, usually thermosetting. The layers are then stacked. At the top and bottom of the stack are highly polished or otherwise finished chromium plated steel sheets. Their finish is transferred to the laminated material through the application of heat. Curing time is longer than in the molding processes, and after they are finished the sheets require trimming to size. Laminated materials are noted for their strength, ease of formability and electrical characteristics. Low pressure laminating is a recent development in this field.

**Fabricating:** Denotes such operations as cutting, sawing, drilling, punching, buffing and sanding.

**Finishing:** A number of finishing and decorating operations are employed following the removal of articles from their molds. Finishing may include removing the flash (excess material squeezed out at the edges) and the gate marks. (Gates are the connecting channel pieces from the opening in the heating chamber to the molds.) Other finishing operations are drilling, tapping, tumbling, and filing. Tumbling is done in a revolving barrel to remove flash and for polishing.

## Main Types of Plastics

### THE PHENOLICS

These have the widest use in the molding industry of all plastic materials. As a group they are thermosetting tar acid resins; can withstand much higher temperatures than most thermoplastics. They are used not only in molded articles but in adhesives, paints, varnishes, abrasives, castings, and laminations, being available in the form of sheets, rods and tubes as well as molded compounds.

**Phenol-Aldehyde Resins:** are the largest group of phenolics. Through carefully controlled use of fillers an infinite variety of properties may be developed.

*Characteristics*: Versatility of use, light weight, good surface appearance, average mechanical strength, excellent electrical qualities.

*Typical Uses*: Telephone hand sets, coffee pot handles, radio cabinets, ash trays, table tops, buttons, closures, containers, jewelry, novelties, etc. Widely used in the production of plastic bonded plywood, which is very strong and has many war uses; also for paints, varnishes and lacquers.

**Cast Phenolics:** are made in open molds into which the thermosetting materials are poured in liquid form. They are hardened by an after-baking process. Several colors may be combined in the liquid resin to obtain unusual color effects, sometimes in imitation of marble or onyx.

*Characteristics*: Unusual color combinations and mottling effects; resistant to the average oils and acids, also to moisture and chemicals; excellent for electrical applications; non-inflammable; softens and whitens in hot water.

*Typical Uses*: Clock cases, knife handles, radio cabinets, decorative trim, buttons, dice, dominoes, poker chips, costume jewelry.

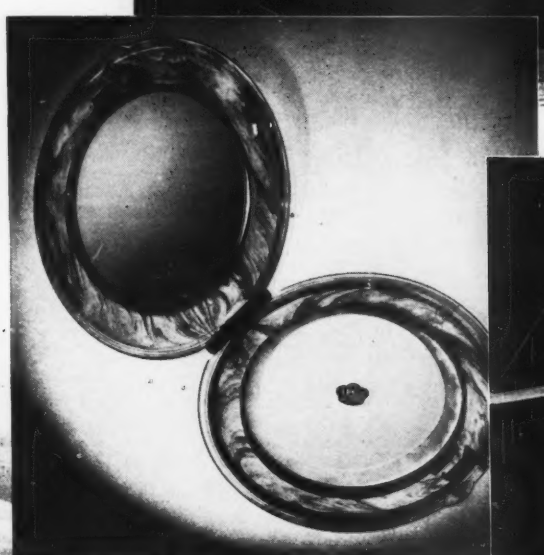
### AMINO PLASTICS

These include both urea-formaldehyde and melamine-formaldehyde. Thermosetting, they are next to the phenolics as compound molding compounds.

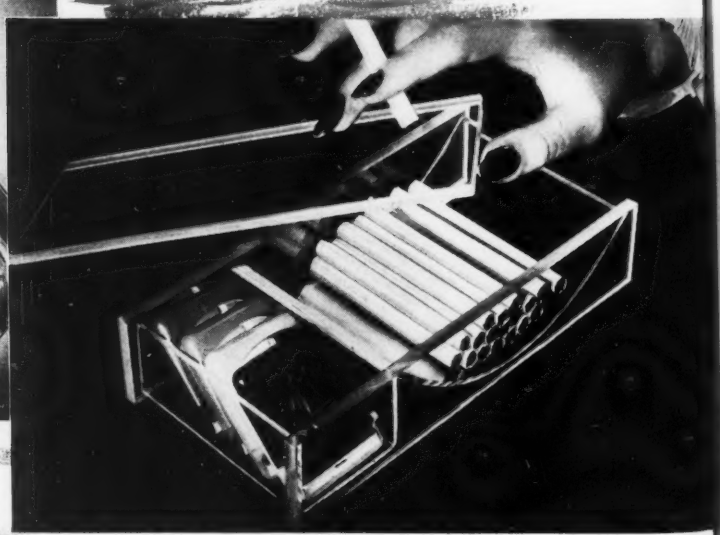
(*Continued on page* 46)

# *A Famous Name in P*

**GRACEFUL BEAUTY** to grace a charming home. Novel and decorative candle holder in crystal-like PLEXIGLAS. By Celomat.



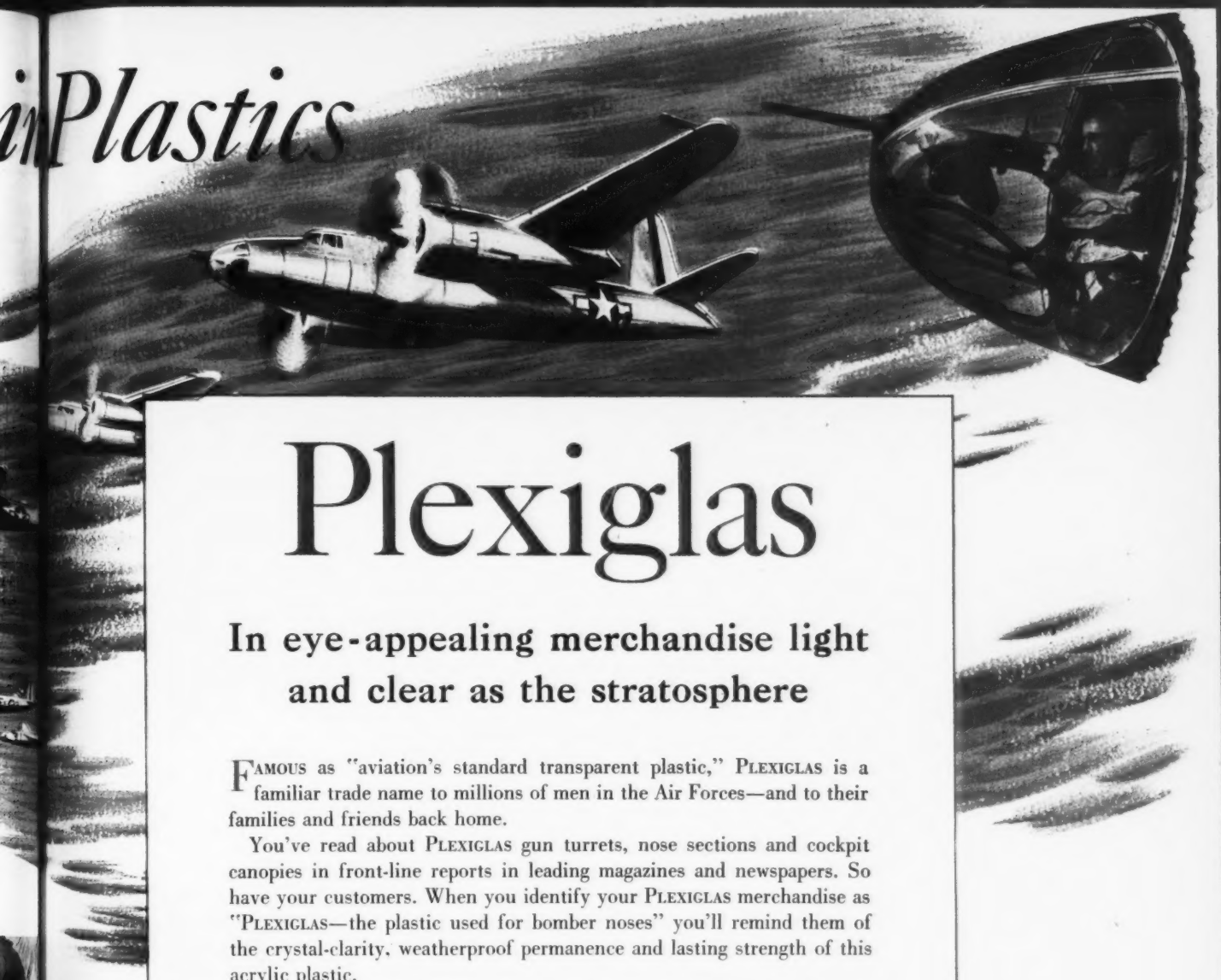
**CAPTIVATING**—Huge compact of feather-light PLEXIGLAS... wafer-thin... available in four luxurious tones to complement the most distinctive ensembles: Carnelian... Blonde Tortoise... Pine Green... Tortoise Shell... Molded by Mayco.



**INVITING**—Every hostess will be delighted with this smartly styled cigaret box, of transparent PLEXIGLAS. Has separate compartment for matches. By Vargish.

ROHM & HAAS

Manufacturers of Chemicals including Plastics . . . Synthetic Insecticides . . . Fungicides




# Plexiglas

## In eye-appealing merchandise light and clear as the stratosphere

FAMOUS as "aviation's standard transparent plastic," PLEXIGLAS is a familiar trade name to millions of men in the Air Forces—and to their families and friends back home.

You've read about PLEXIGLAS gun turrets, nose sections and cockpit canopies in front-line reports in leading magazines and newspapers. So have your customers. When you identify your PLEXIGLAS merchandise as "PLEXIGLAS—the plastic used for bomber noses" you'll remind them of the crystal-clarity, weatherproof permanence and lasting strength of this acrylic plastic.

*Quantities of* PLEXIGLAS *available for civilian merchandise are now limited. Cooperate with your supplier by anticipating your requirements as far in advance as possible.*

***Look for this Tag!***

Most PLEXIGLAS merchandise is identified by this tag. Directions for cleaning appear on back.

***Know Plastics!***

To acquaint your salespeople with the unique properties of PLEXIGLAS, send for copies of this non-technical booklet.

COMPANY

WASHINGTON SQUARE
PHILADELPHIA 5, PA.

Enzymes . . . Chemicals for the Leather, Textile, Enamelware, Rubber and other Industries

**Ureas:** were introduced in the United States in 1929. The urea resins are formed by combining urea and formaldehyde. These materials are noted for their unlimited color range, including translucent whites which are used extensively in lighting reflectors. In addition to molding compounds, the ureas are available in the form of laminating resins, adhesives, and cold-setting cements.

*Characteristics*: Like those of the phenol group. Although they are not especially suited to long exposure to water or high humidity, leading manufacturers claim they can withstand 15 to 30 minutes in boiling water without any deleterious effect. Notable for many beautiful colors that can be obtained—ranging from translucent colorless natural and white to lustrous black.

*Typical Uses*: Scale housings, radio cabinets, lighting equipment such as table and floor lamp reflectors, cosmetic jars, handles, electrical parts, buttons, table ware, electric razors, closures, etc.

**Melamine** is one of the newest of the thermosetting plastic molding compounds (1939). It is pretty much like the urea-formaldehyde plastics in appearance.

*Characteristics*: Greater resistance to heat, water and chemicals; light weight; odorless and tasteless; not easily broken. Unlimited color range.

*Typical Uses*: Table ware, adhesives for plywood, buttons, ignition parts.

## CELLULOSE PLASTICS

The cellulose plastics have a great many characteristics which have made them outstanding materials in the plastics field. Most of these materials are available in a great variety of forms, including sheets, rods, tubes, molding powders, films and foil. A wide range in formulations permits emphasis to be placed upon certain desired properties for a particular end use. Colorability of the materials as a class is also excellent.

**Cellulose Nitrate** was the first of the important plastics in the thermoplastic group. It is produced from wood cellulose or cotton linters, treated with sulphuric and nitric acids and plasticized with camphor. Cellulose nitrate materials are not available in molding compound. They are sold to fabricators in the form of sheets, rods, tubes, films and emulsions. They are available in an almost unlimited color range including mottled effects.

*Characteristics*: Resist corrosive action of ink, have toughness, water resistance, transparency and flexibility. Because of a tendency to rapid combustion they are not suited to applications where high heat or an open flame is likely to be encountered. Are easily produced and have an almost limitless color range.

*Typical Uses*: Fountain pen barrels, decorative jewelry, combs, knobs, soap dishes, piano keys, spectacle frames, cutlery handles, photographic film, toothbrushes, screwdriver handles, ping pong balls, cutlery handles, etc.

**Cellulose Acetate** was used first, about 1910, in safety photographic film, but was not available as a molding (thermoplastic) compound until 1927. Has great speed of moldability. After 1934, and the development of injection molding machines, the consumption of this material reached first place among the thermoplastic molding compounds.

*Characteristics*: Fair water resistance; limitless color range. Softening point is around 160° F. to 180° F. depending on formulation.

*Typical Uses*: Combs, novelty jewelry, toothbrushes, toys, glazing, compacts, flashlight cases, tool handles, small radio cabinets, oilcans and automobile accessories, escutcheons and other hardware.

**Cellulose Acetate Butyrate** is another of the cellulosic compounds, in many ways similar to cellulose acetate. It is injection molded or extruded.

*Characteristics*: It is more stable under contact with moisture, otherwise similar in most respects to cellulose acetate.

*Typical Uses*: Tootbrush handles, electric clock housings, portable radio housings, flashlight cases, shower nozzles, cutlery handles, combs.

**Ethyl Cellulose** is one of the newer cellulose materials which will come into more general use in the plastic molding field after war controls are lifted.

*Characteristics*: Retains high degree of flexibility even at extremely low temperatures —important in surface coatings and similar applications. Has good electrical properties.

*Typical Uses*: In lacquers and for packaging; flashlights, automobile hardware (steering wheel, radio grill, etc.,) various threaded items, vacuum cleaner parts, electrical parts.

## PROTEIN PLASTICS

**Casein** plastics are produced from skim milk. They are available only in the form of sheets, rods and tubes for the production of items cut or machined into finished forms. However, solutions of the materials are also used in adhesives and paper coatings.

*Characteristics*: Easily fabricated, good lustre and color range, but is at a disadvantage because of high water absorption and lack of dimensional stability under long exposure to high humidity conditions.

*Typical Uses*: Buttons, novelty jewelry, buckles, toys and accessories.

**Soy Bean Plastics** are not commercially important at the present time, although a great deal of research and experimentation are going forward in an effort to improve the final product and, incidentally, to provide an important outlet for agricultural products. This is a field in which Henry Ford has done extensive work. Like casein and other protein materials, the soy bean plastic is hardened with formaldehyde.

*Characteristics*: Relatively long curing

time, inferior strength; is adversely affected by contact with water.

## ACRYLICS

**Methyl Methacrylate,** recently introduced, is the most important resin of the acrylic type. It is thermoplastic. The acrylics are produced by a highly complex chemical reaction and are available in the form of sheets, rods, tubes, liquids and molding compounds.

*Characteristics*: Has crystal clarity exceeding that of the highest grade of plate glass; is easily formed into sections; has excellent optical properties.

*Typical Uses*: Present war uses include instrument lenses, reflectors, airplane windows, bomber noses, etc. Today's civilian uses are only for dentures, surgical apparatus and similar items. Postwar—for the better grade of costume jewelry, combs, brush backs, powder boxes, dials, optical lenses, etc.—where crystal clarity and color effects can be used to advantage.

## POLYSTYRENE

Polystyrene, although introduced in the U. S. market only six years ago, promises to become one of our most valued and widely used plastic compounds. It is usually injection molded and is a thermoplastic.

*Characteristics*: Outstanding for its electrical qualities; water absorption almost nil; has surface hardness, permanence of dimensions, exceptional resistance to most acids and other chemicals. For some applications the softening point is rather low, and the material is not high in shock resistance.

*Typical Uses*: War uses are for instrument panels, insulation sheets, dials, etc. Postwar uses will be for combs, refrigerator parts, bottle closures, chemical and cosmetic containers, automobile dashboard parts, novelty jewelry and numerous electrical and household items.

*Note*: Strictly speaking, polystyrene is a vinyl resin, but it is generally distinguished from the other resins in that group.

## POLYETHYLENE

Polyethylene is a new, flexible and translucent material having excellent electrical properties. It is used for wire insulation and may be extruded to produce rods, tubes or a variety of shapes. These resins, as manufactured, are colorless, and can be made into clear translucent articles or formulated in a wide color range with exceptionally high luster. The plastics are so light they will float on water. Thermoplastics, they can be processed by the usual methods; also extruded, molded, fabricated into sheets and film, and coated onto cloth. Additional properties are low moisture transmission, flexibility and toughness. Polyethylene can be used to make washers and similar molded items, films, coated fabrics and paper, collapsible tubes, etc.

## VINYL RESIN PLASTICS

Many of the vinyl resin plastics were first introduced commercially in the U. S. about 15 years ago. This series has rapidly developed into one of our most versatile plastics.

**Vinyl Acetate:** An adhesive, usually employed in bonding cloth, paper, glass, leather, wood and other materials. (e.g.—Plastic Wood and Sotch Tape).

**Vinyl Butyral:** Used as a binder in modern safety glass. (Your automobile has it.) Has qualities of adhesion, toughness and flexibility and freedom from discoloration.

**Vinyl Chloride:** When plasticized is like rubber in appearance, with excellent resistance to oils and many chemicals, including both acids and alkalis. Important in field of wire insulation, etc., and for numerous uses formerly filled by natural rubber compositions; also for such items as bathing caps, shower curtains and waterproofed fabrics.

**Polyvinyl Chloride-Acetate:** Is a combination of vinyl chloride and vinyl acetate. Some well known prewar products were made from it, including suspenders, shower curtains, wire insulation, shoe tips, cosmetic containers, proofed fabrics, some types of tobacco pouches; also scratchless recordings for broadcast. Available in a wide range of colors and properties.

**Vinylidene Chloride:** Is usually produced as extruded tubing, but may be injection molded into numerous parts where chemical resistance and low water absorption is essential. Wartime uses include many applications as a substitute for copper tubing, tube fittings, spray gun handles. Extruded fibers of this compound have exceptional strength and are used in the manufacture of seat covers for buses, trains, etc.

## HIGH HEAT RESISTANT THERMOPLASTICS

Up until recently a thermoplastic material has been unsuited for any application involving a temperature of about 160° F. or higher. For uses where heat is encountered, such as on coffee-pot handles, toaster parts, lighting reflectors, etc., the thermosetting materials have generally been used. Recent material developments in the thermoplastic field, however, indicate that in the future there may be less distinction between the two basic types of material than heretofore. Molded nylon, a thermoplastic, for example, will withstand temperatures of around 260° F. or higher, while a new heat resistant acrylic has also been developed. Polydichlorostyrene, another new resin, has electrical properties superior at high frequencies to polystyrene with a heat distortion point of around 232° F. Another group of resins provides a polystyrene type material with a heat distortion point of from 30% to 60% higher than that of polystyrene.

These developments are certain to have an important bearing on the relationship between thermoplastic and thermosetting materials. They open up many new fields for the injection molding business where articles coming in contact with heat may be made available in a broad color range.

# Plastics Merchandise Tomorrow

TODAY the production of the plastics industry is primarily devoted to the manufacture of war materiél. The industry has been able to keep pace with the huge production requirements of the Army and Navy without one report of any serious delay.

The transition to the manufacture of war products from peacetime parts proceeded with only minor pains. In undertaking the burden of the war load it was necessary to expand the plant facilities of materials manufacturers considerably as well as those of the molding and fabricating companies. Before Pearl Harbor most of the industry's products were found on retailers' shelves in the form of combs, brushes, mirrors, radios, picnic ware, toys, costume jewelry, lamp shades and a host of other articles.

The very materials which were used to make them are now at the front with GI Joe. If he is an aviator, the transparent enclosure in his plane is made of either a transparent acrylic or cellulosic material. If he is an engineer, he is using protractors and other instruments of similar materials. If he is a bugler, he may use a bugle made of cellulosic plastic; the lenses in his gas mask and its other parts are also made of these materials. If he is in the Signal Corps, his equipment would contain many phenolic parts formerly made into radio cabinets or perhaps dice or numerous other articles. The vinyl insulation on his radio or telephone equipment reached the consumer as rainwear or possibly as uppers on shoes. These examples could be expanded indefinitely.

### War Has Been an Impetus

The war has made many unexpected demands on the plastics industry. Where before close dimensions and tolerances were not such an important factor, they are now vital and part and parcel of routine production. Where previously the industry was satisfied with but a limited number of basic types of materials, there are now over twenty various classes commercially available. While many of these were known only to the research chemist before, they constitute practically in every instance a major technological advance in their large scale production and application.

For example—at the expense of being somewhat technical—the production of polyethylene had not been perfected. At present this material is being produced in large quantities. Without it radar would not be a success. Melamine is perhaps a foreign language to you. However, this plastic makes it possible for our planes to fly at unbelievable high altitudes.

When the time comes for forging plowshares from swords, the war-acquired know-how and expanded production facilities of the industry will make tremendous contributions to the number and extent of peacetime plastics applications.

### Better Consumer Goods Everywhere

Practically every department in a store will feel the impact of plastics. Already certain types of furniture have been made from plastics. Some of it has been made entirely of plastics, while in other cases only parts of chairs, tables or desks have been made of them. Well informed furniture buyers know that pyroxylin has been used for years in place of ivory where marquetry was incorporated in the furniture design. The possibilities here are interesting.

In the field of electrical appliance the uses of plastics have only been touched. Curling iron handles, control knobs, fuses, toasters and other devices are only stepping stones to the future.

Books may be bound with plastic covers. Certain striking editions may have ornate plastic bindings. The notion counter will be filled with colorful articles. Every salesperson is acquainted with the job plastics have done in the field of drugs and cosmetics. With many new types having been developed their use here should be expanded.

Plastics have been employed in the manufacture of hand-bags, for frames and lately for the body of the bag. Owing to the war all the potentialities haven't been explored. When all materials in their complete variety of colors are available, hand-bags of plastics in new forms will undoubtedly appear. The possibilities of many new and original effects from plastics in the manufacture of costume jewelry are intriguing.

As every one knows, radios have used plastics extensively in their working parts and for cabinets. Their use here in different forms will be expanded. The development of television will depend upon the functional performance of plastics.

The millinery department will see many startling new plastics creations, both for the hat itself and as trimming. Whether you know it or not corset "bones" are made with metal, coated with plastics. If your customer's corset has ever made her uncomfortable an all-plastic "bone" may some day solve that problem.

Women's shoe uppers have been made from plas-

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tics. A great quantity of shoes are now soled with plastics. The further possibilities of using plastics in the manufacture of shoes are unlimited. Of course, wherever buttons are used on clothes, chances are they are made of plastics. It is altogether possible that they too will be improved. All types of rainwear offer good possiblities for the application of plastics. Even the old reliable umbrella could succumb to a plastic rejuvenation.

Floor coverings made from some of the more recent plastics will probably be explored. The drapery department will see many new devices made from plastics for hanging curtains and drapes.

Every one in the lamp department is familiar with the fact that plastics have been used for both bases and shades. The lighting qualities and the attractive effects possible with some of the newer types hold interesting promise. While a great deal has been done with using plastics as picture and mirror frames, there still may be room for improvement by extending their use.

Unbreakable phonograph records are entirely possible where certain types of plastics are used. Camera and camera parts manufacturers will undoubtedly use plastics more extensively. No doubt the sales appeal and durability of luggage will be improved when plastics become generally available. The unbreakable qualities of certain plastics along with their color appeal makes them especially suitable for the manufacture of toys.

The emergencies of war have stepped up engineering ability and the imagination which will be ready to begin designing and producing civilian goods from plastics. It will be important for the plastics industry to correctly apply their materials. The war has taught the industry the need for sound engineering in applying and producing parts from plastics. It will benefit greatly from the advice and counsel of the retailers in developing merchandise of plastics which will serve well—*and sell.*

## The Society of the Plastics Industry

IN 1937 SPI was formally organized, and chartered by the State of New York, for the purpose of assembling and disseminating scientific, engineering and other information on plastics and, in general, to promote the welfare of the plastics industry.

The initial charter membership included 16 plastics organizations; today there are more than 400 company members in the United States and Canada and some 544 individual and professional memberships. Within recent months the by-laws were amended to allow membership by companies and qualified individuals outside of the United States and Canada. Plastics concerns in England, South America and Australia have since been elected to membership.

In the United States and Canada membership groups include all of the principal plastic materials producers, an estimated 90% of the processors and molders and a substantial number of those companies supplying molding and fabricating machinery to the industry.

During the war period, SPI has acted as liaison between Government departments and the industry. Washington, D. C. representation has been constantly maintained.

In general, the activities of the Society include those usually falling within the scope of trade association work. Production statistics on molded plastic parts are collected and distributed to participating member companies. Information relating to employer-employee relations, taxes, industrial accounting practices and interpretation of Government regulations are furnished to member companies as required.

The Technical and Engineering Division has done much to promote proper war use of plastics. This committee is now compiling a technical plastics handbook which will cover all phases of data on plastics required by engineers and product designers in specifying such materials. This handbook, when completed, will place plastics on an even plane with steel, copper, aluminum and many of the other older materials for which such engineering data has long been available.

While mention was made above of the liaison work between Government departments and the industry, this also applies to private industry. Questions are being constantly received at the home office from industry members, customers, schools and many others. Often these relate to a possible source for a particular plastic article. Or perhaps a member desires to know where he may obtain a certain type of equipment. Directing such inquiries to the proper source is one of SPI's most important functions.

Because of the constantly increasing number of such inquiries, a Directory of membership was first published in November of 1943. This Directory outlined the functions of the Society, its history and by-laws. But possibly of greater importance as a reference source, is the extensive listing of member companies, showing the type of products offered for sale. A product index in which hundreds of individual plastics items are alphabetically arranged provides a ready source for contacting producers.

The first directory met with an enthusiastic response from both members and non-members. The book, consisting of more than 160 pages, has been increasingly used by buyers in checking plastic product sources. This year's Directory has been improved in several important respects. With over 450 plastics companies and their products listed, separate indexes are included for products, materials and machinery. There are more than 700 different plastics articles included in the Product Index.

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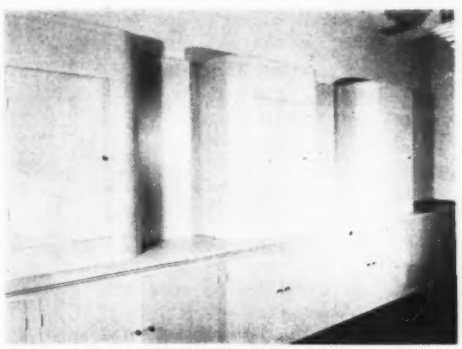
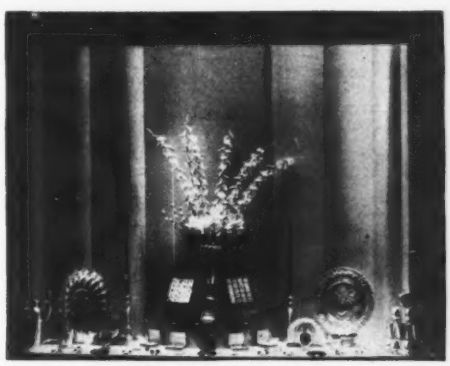


*Effective Cabinet Remodeling*



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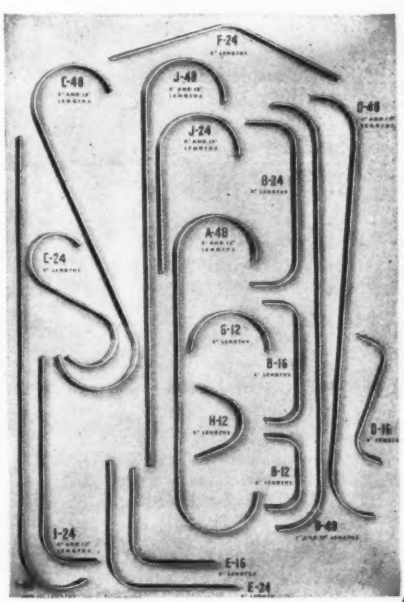


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# Glossary

**ACETATES:** general term for cellulose acetate and cellulose acetate butyrate plastics.
**ACRYLICS:** transparent thermoplastics, usually methyl methacrylate (acrylic acid derivative).
**AMEROID:** (trade name) casein plastics.
**AMINO:** general term for urea and melamine plastics.

**BAKELITE:** (trade name) phenolic, urea and polystyrene plastics.
**BEETLE:** (trade name) urea plastics.
**BUTACITE:** (trade name) vinyl butyral plastics.
**BUTVAR:** (trade name) vinyl butyral plastics.
**BUTYRATE:** trade term for cellulose acetate butyrate plastics.

**CASEIN:** protein plastics prepared from milk.
**CAST RESIN:** liquid resin formed in mold without pressure.
**CATALIN:** (trade name) cast phenolic plastics.
**CATALYST:** substance which influences rate of chemical reaction without losing its identity in the process.
**CELERON:** (trade name) laminated phenolic plastics.
**CELLOPHANE:** (trade name) transparent packaging film material produced from regenerated cellulose.
**CELLULOID:** (trade name) cellulose nitrate plastics.
**CELLULOSE:** raw material used in certain plastics, usually cotton or wood pulp.
**CELLULOSICS:** general term for cellulose acetate, cellulose acetate butyrate, and cellulose nitrate and ethyl cellulose.
**CELLULOSE ACETATE:** plastic generally produced from a combination of cotton linters with sulphuric acid, acetic acid and acetic anhydride.
**CELLULOSE ACETATE BUTYRATE:** plastic produced from cotton linters treated with acetic acid and acetic anhydride with the addition of butyric acid.
**CELLULOSE NITRATE:** plastic produced from wood cellulose or cotton linters treated with sulphuric and nitric acids and plasticized with camphor.
**CEREX:** (trade name) heat resistant polystyrene plastics.
**CHEMACO:** (trade name) cellulose acetate, ethyl cellulose, vinyl and polystyrene plastics.
**COAL TAR:** produced in making gas from coal; valuable source for plastics, synthetics.
**COLD MOLDING:** molding by pressure at room temperature, with hardening later through baking.
**COMPRESSION MOLDING:** method of making thermosetting plastics (*see Encyclopedia*).
**COPOLYMERIZATION:** polymerization of several substances.
**CO-RO-LITE:** (trade name) fiber filled phenolic plastics.
**CURE:** time required for molding which may take from a few seconds to many minutes.

**DAYSTROM:** (trade name) laminated opaque amino plastics.
**DILECTO:** (trade name) laminated phenolic plastics.
**DISTORTION:** any change in shape in a plastics product from its original molded dimensions.
**DUREZ:** (trade name) molding phenolic plastics.
**DURITE:** (trade name) molding phenolic plastics.

**EJECTOR:** device to get a molded piece out of the mold.
**ETHOCEL:** (trade name) ethyl cellulose plastics.
**ETHOFOIL:** (trade name) ethyl cellulose plastics film.
**ETHYL CELLULOSE:** plastic produced from cotton linters or treated wood cellulose combined with sodium hydroxide and ethyl-sulphate together with plasticizers.
**EXTRUSION:** thermoplastic material continuously squeezed out through a die in the required size and shape.

**FABRICATING:** operations such as cutting, sawing, drilling, punching buffing, sanding.
**FABRIKOID:** (trade name) cellulose nitrate plastic coating.
**FARLITE:** (trade name) laminated opaque amino plastics.
**FIBESTOS:** (trade name) cellulose acetate plastics.
**FILLERS:** materials added to the molding compound to serve a specific purpose (i.e—to provide impact strength, shock or heat resistance, etc.)
**FINISHING:** operations employed after removal of articles from their molds (i. e.—flash and gate removal, also drilling, tapping, tumbling, filing).
**FLASH:** excess material squeezed out at the edge of the mold.
**FORMALDEHYDE:** a gas, made by oxidizing methyl or wood alcohol.
**FORMALIN:** formaldehyde, in a water solution.
**FORMICA:** (trade name) phenolic and amino laminated plastics.
**GATE:** connecting point, or points, where the molding material reached the edge of the mold cavity.
**GEON:** (trade name) vinyl chloride polymers and copolymers.
**HERESITE:** (trade name) molding phenolic plastics.
**HOB:** steel form pressed into a steel cavity blank to get the desired shape for the mold.
**INDUR:** (trade name) molding phenolic plastics.
**INJECTION MOLDING:** method of making thermoplastic items (*see Encyclopedia*).
**INSERTS:** metal pieces molded right into the finished product.
**INSUROK:** (trade name) laminated and molding phenolic plastics.
**KNOCKOUT PIN:** used to remove molded piece after the mold has been opened.
**KODAPAK:** (trade name) cellulose acetate plastics foil.
**LAMICOID:** (trade name) laminated phenolic and urea plastics.
**LAMINATING:** applying heat and pressure to layers of sheet material previously impregnated with a thermosetting compound. Recently, a new technique of low pressure laminating has been developed in which reduced temperatures are used.
**LIGNIN:** resin obtained in bargasse, corn stalks, wood, etc.
**LOALIN:** (trade name) polystyrene plastics.
**LUCITE:** (trade name) methyl methacrylate plastics.
**LUMARITH:** (trade name) cellulose acetate plastics.
**LUSTER:** descriptive term for describing the finished surface of a plastics item.
**LUSTRON:** (trade name) polystyrene plastics.
**MAKALOT:** (trade name) molding phenolic plastics.
**MARBLETTE:** (trade name) cast phenolic plastics.
**MELAMINE:** plastic formed by combining melamine and formaldehyde by a condensation process.
**MELMAC:** (trade name) melamine plastics.
**METHACRYLATES:** transparent, colorless thermoplastic resins.
**MICARTA:** (trade name) laminated phenolic and urea plastics.
**MOISTURE ABSORPTION:** amount of water absorbed by a plastics piece immersed.
**MOLDING:** making a plastics item in a mold through pressure and, in most instances heat.
**MOLDING CYCLE:** in making a plastics item, the complete

**WHO** *makes it?*

*see . . . . .*

**PLASTICS BUYER**

**WHERE** *is he located?*

*see . . . . .*

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**WHAT** *is it made of?*

*see . . . . .*

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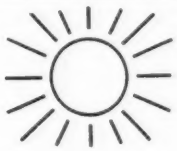
# WHAT TO *KNOW* ABOUT PLASTIC BUTTONS

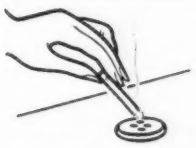
**CAN THEY WITHSTAND:**

**•HOT WATER . . . . .**
in the laundry

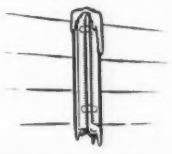


**•EXPOSURE . . . . . .**
to sunlight without fading

**•BREAKAGE . . . . . .**
in ironing and pressing



**•FIRE . . . . . .**
from cigarettes,
matches, hot irons



**•COLD WEATHER . .**
without becoming brittle

● To meet all of these requirements, plastic buttons must be *compression molded* from *thermo-setting* urea, phenol, or melamine formaldehyde molding materials.

PATWIN plastic buttons are manufactured according to these formulas to insure satisfactory service.

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**Factories at Waterbury, Conn., Knoxville, Tenn.,**
**Offices: Waterbury, New York, Boston, Chicago, St. Louis, Nashville, Atlanta, Dallas.**
**Hart-Cobb-Carley Co., Los Angeles, West Coast Representatives**

time required (heating, curing, discharging from the mold).

**MONOMER:** relates to the chemical structure of a substance, when that is a grouping of single molecules.

**MOTTLE:** mixture of colors resulting in interesting patterns.

**n-BUTYL METHACRYLATE POLYMER:** acrylic plastic coating.

**NEILLITE:** (trade name) molded phenolic plastics.

**NITRON:** (trade name) cellulose nitrate plastics.

**NIXON E. C.:** (trade name) ethyl cellulose plastics.

**NIXONITE:** (trade name) cellulose acetate plastics.

**NIXONOID:** (trade name) cellulose nitrate plastics.

**NYLON:** trade name for polyamine plastics.

**PANELYTE:** (trade name) laminated phenolic plastics.

**PARKWOOD:** (trade name) laminated opaque amino plastics.

**PHENOL:** carbolic acid in the form of white crystals (a by-product of the distillation of coal).

**PHENOL-FORMALDEHYDE RESIN:** thermosetting— from reaction of phenol and formaldehyde.

**PHENOLICS:** name for all of the phenol-aldehyde plastics.

**PHENOLITE:** (trade name) laminated phenolic plastics.

**PLASKON:** (trade name) urea plastics.

**PLASKON MELAMINE:** (trade name) melamine plastics.

**PLASTACELE:** (trade name) cellulose acetate plastics.

**PLASTICIZERS:** used to soften the plastic materials or resins; sometimes to toughten them.

**PLEXIGLAS:** (trade name) methyl methacrylate plastics.

**POLYETHYLENE:** a new, flexible and translucent material having good electrical properties.

**POLYFLEX:** (trade name) polystyrene plastics.

**POLYMER:** relates to the chemical structure of a substance, when it is composed of chains of single molecules.

**POLYMERIZE:** to change (by union of two or more molecules of the same kind) into another compound having the same elements in the same proportion, but with a higher molecular weight and different physical properties.

**POLYSTYRENE:** thermoplastic synthetic resin (the polymer of styrene).

**POLYTHENE:** (trade name) polyethylene plastics.

**PREFORMS:** molding powders made into pellets or tablets.

**PRIMAL:** (trade name) acrylic plastic coating.

**PRYSTAL:** (trade name) cast phenolic resin.

**PYRALIN:** (trade name) cellulose nitrate plastics.

**REALWOOD:** (trade name) plastics impregnated wood veneers.

**RESIMENE:** (trade name) molding melamine plastics.

**RESINOX:** (trade name) molding phenolic plastics.

**RESINS:** mixtures of solid or semi-solid organic compounds.

**RHOPLEX:** (trade name) acrylic plastics coating.

**SAFETY GLASS:** a laminated product, with a transparent plastic cemented between two sheets of glass to make it shatterproof.

**SAFLEX:** (trade name) polyvinyl butyral plastics.

**SARAN:** vinylidene chloride plastics.

**SPAULDITE:** (trade name) laminated phenolic plastics.

**SPRUE:** material formed in the injection opening.

**STYRALOY:** (trade name) polystyrene plastics.

**STYRAMIC:** (trade name) polystyrene plastics.

**STYRON:** (trade name) polystrene plastics.

**SYLPLAST:** (trade name) molding urea plastics.

**SYNTHANE:** (trade name) laminated phenolic plastics.

**SYNTHETIC RESINS:** resins made by chemical means.

**TENITE I:** (trade name) cellulose acetate plastics.

**TENITE II :** (trade name) cellulose acetate butyrate plastics.

**TENSILE STRENGTH:** pounds of pulling force needed to break a plastics sample.

**TEXTOLITE:** (trade name) molding phenolic plastics.

**THERMOPLASTIC:** can be repeatedly softened by heating.

**THERMOSETTING:** can be hardened by heating.

**TRANSFER MOLDING:** like injection molding, but used for thermosetting plastics. (*see Encyclopedia*).

**TUMBLING:** done in a revolving barrel to remove flash and for polishing.

**UREA:** plastic formed by combining urea and formaldehyde by a condensation process.

**UREAS:** general term for urea plastics.

**VINLITE:** (trade name) vinyl acetate, vinyl butyrate, vinyl chloride and vinyl chloride acetate plastics.

**VINYLS:** general term for the plastics group listed in the preceding definition (basic material is calcium carbide).

**VUEPAK:** (trade name) cellulose acetate packaging plastics.

## Organization of the Industry

The plastics industry is composed of two separate and distinct groups of companies. The first group may be said to consist of those companies which supply the basic plastics materials. The second group, and by far the largest numerically, consists of those companies that convert the plastic materials into finished form by such methods as molding, extruding, laminating, impregnating, etc. There is, naturally, some overlapping as between the two groups. A few molders compound their own materials but these are the exception.

In the material manufacturers' group there are, at present, approximately 25 suppliers who as a rule are prominent among companies in the chemicals industry. There are about 30 companies engaged in the laminating end of the plastics business.

An estimated 750 companies in the country may be classified as plastic molders, the most important group from a volume production standpoint of any other single group in the industry. An estimated 2,500 companies fabricate plastics. The identity here is less clear than in the case of the molders. Any concern that works with plastic sheet, rod and tube materials is classified by the industry as a fabricator.

Some 442 companies do compression molding, while around 262 are injection molders. About 100 companies operate extrusion presses. The large number of fabricators includes many small organizations that use plastics as well as other types of materials to form finished articles of almost every description.

Some idea of the growth of the industry may be had from this statistic: sales trend figures for molding and fabricating companies show that the estimated dollar value of their sales at the end of 1943 showed an increase of 1,800 per cent over 1932 figures.

# Coordination Under One General Manager Suggested for Small Community Stores

## . . . Shopping habit survey in a typical suburb indicates that some pooling of retail facilities would help meet competition of big city stores

A RECENTLY completed retail business survey of Montclair, N. J., has national implications. Like so many other American towns, Montclair is a residential suburb just a stone's throw away from large metropolitan areas. The merchants are faced with a strong competitive situation rooted in the appeal of the large department stores in the nearby big cities.

Through their Chamber of Commerce, the Montclair merchants asked Leo Nejelski, New York public relations and management counsel, to make a survey of the buying habits of local residents. They wanted to know where each Montclair shopper buys every item (except food) and why. What appeals have the department stores which the shoppers miss in their home town? What experiences have they had buying the same articles in Montclair and in Newark, New York and other centers? What effect has the war had on these shopping habits? What is the postwar outlook? Finally, what coordinated activities should the Montclair merchants embark upon to place them on a firm footing?

The statistical evidence presented by the survey followed the pattern familiar to merchants in towns like Montclair, who know that the reasons most frequently presented for shopping out of the town have to do with the wider price ranges, greater stock completeness and variety, and the service, including advertising information, which customers believe the larger department stores offer. The Nejelski report, however, concluded with a detailed program for corrective action on the part of the local retailers; and working committees of the Montclair merchants have been organized to get the various phases of the program going.

The recommendations pointed out that the Montclair stores, *taken together,* offer all the varieties of merchandise and service which a big department store offers. A central organization was suggested to coordinate their activities in the same way that the collection of shops which make up a department store are coordinated. It was further recommended that this centralizing function be concentrated in the hands of one person, not a committee, who would serve as general manager for the merchants of Montclair under the jurisdiction of the Chamber of Commerce.

### The Coordinating Job

The general manager's main job would be to see that the variety of merchandise and services are adequate for the needs of the community; to recognize new needs when they arise and to point them out to existing stores or encourage new stores to meet them. He would also arrange for a cooperative display service for merchants who do not find it profitable to employ full-time display assistance; act as advisor and consultant on administration and financing problems; conduct a cooperative employment center; train salespeople; coordinate merchandising and selling activities properly timed to compete with sales periods in neighboring large cities; make arrangements for pooled buying; develop a group of accountants and accounting methods to give the merchants the most useful records and information about their businesses.

Admitting that at first glance this seems paradoxical, the Nejelski report recommends that department store branches be brought to Montclair. The recommendation is based on the reason most frequently given for shopping out of town—the wider selection obtainable elsewhere. Bringing more merchandise to Montclair, the report says, will step up local store traffic. It adds:

"A branch of a well-known store will also attract buyers from adjacent and nearby communities. This will increase traffic for all stores.

"Because of their broader background and their variety of experience, such stores can act as a powerful stimulus in upgrading the efforts and results of all the stores in the community. Intelligent and skilled competition can serve as an excellent example for competing merchants to match or improve upon."

### Findings of the Survey

The study discloses that only 19 per cent of the population does all of its shopping in Montclair; 70 per cent divide their purchases between Montclair and elsewhere; six per cent do none of their shopping locally, while five per cent did not answer. The lower income groups avoid Montclair to a larger extent than do those in the middle and upper brackets. Those women who work in Montclair, and those whose husbands work in Montclair, do less out-of-town shopping than do those who are employed in the surrounding metropolitan areas. Those families who participate in local community activities are more inclined to deal with the local merchants.

About 22 per cent of the population is buying more in Montclair

now than they did before the war. The shift towards increased local shopping was induced primarily by travel and gasoline restrictions. But of great importance to the merchants is the fact that most of these new customers expect their switch to be permanent.

The table on this page shows how Montclair residents distribute their purchases.

In the main, Newark draws the biggest share of non-Montclair shoppers, with New York the next largest shopping center and other neighboring cities third.

Newark is particularly favored for linen, small home equipment, and children's clothing. New York gets a major share of men's clothing and jewelry, and competes strongly for women's dresses and coats. The nearby Oranges get a sizable share of the beauty shop and children's clothing business.

From two-thirds to three-quarters of those who shop in Montclair for a given item believe that the local stores compare favorably in all important respects with stores in New York, Newark, etc. The only exception to this majority is in the case of large home equipment, where a very great number professed inability to compare—probably because they have not bought often enough to have had comparable experiences.

DO YOU AND YOUR FAMILY GET THE FOLLOWING TYPES OF MERCHANDISE OR SERVICES MOSTLY IN MONTCLAIR, OR ELSEWHERE?

| | *Per Cent of Those Who Buy* | | | *Per Cent Which Buyers Represent of Total Population* |
|---|---|---|---|---|
| | *In Montclair* | *Elsewhere* | *Both* | |
| A. Women's dresses, coats | 33 | 54 | 13 | 97 |
| B. Women's hats | 46 | 48 | 6 | 85 |
| C. Women's shoes | 46 | 49 | 5 | 98 |
| D. Accessories | 44 | 48 | 8 | 94 |
| E. Men's clothing | 16 | 72 | 12 | 74 |
| F. Children's clothing | 48 | 43 | 9 | 42 |
| G. Linen | 19 | 73 | 8 | 81 |
| H. Radios | 59 | 38 | 3 | 52 |
| I. Large home equipment | 66 | 29 | 5 | 46 |
| J. Small home equipment | 74 | 20 | 6 | 78 |
| K. Books, gifts | 74 | 18 | 8 | 93 |
| L. Jewelry | 45 | 50 | 5 | 44 |
| M. Beauty shop | 82 | 16 | 2 | 78 |
| N. Banking | 84 | 12 | 4 | 91 |
| O. Insurance | 42 | 56 | 2 | 72 |

### The Problem Items

However, in the case of four items, there are 10 per cent or more of those who—even though doing most of their shopping in Montclair for the item in question—believe stores elsewhere are superior. These items are: women's dresses and coats, women's shoes, accessories, and linens.

Where unfavorable comparisons were drawn by Montclair shoppers, they were mostly on the two counts of smaller selections and higher prices in Montclair. For shoes, there was the additional complaint that it is difficult to find proper fit and type of shoe; and for accessories, that there are few stores carrying them. It was thought this may indicate that women like especially to shop around from one store to another for accessories, as well as desiring a fairly wide selection within their chosen store.

Whereas the "in-Montclair shoppers" cited the general availability of a wide selection of merchandise, those who favor out-of-town stores but who have tried Montclair very strongly stress the variety of goods to be obtained elsewhere. The wider selection elsewhere included the availability of favored brands, and required sizes, as well as the general wider range of choice. Of great importance to the non-Montclair buyer are the lower prices to be found elsewhere, which is in contrast to the in-Montclair shoppers who, to a fair-sized extent, found the prices reasonable in Montclair. The "elsewhere" shoppers find the price differential of major importance for all types of merchandise items, except women's shoes, men's clothing, and home equipment.

The non-Montclair shoppers are not so much concerned with personalized service in the stores as they are with such service considerations as charge accounts, telephone orders, delivery, and advertising information. The in-Montclair shoppers, in contrast, are appreciative of good or friendly service and are concerned with the *quality* of the merchandise.

The importance of required sizes and brands appears as a decisive factor in the purchase of women's shoes. This is borne out not only in the stress laid on these points by the outside shoppers, but to a lesser extent by those buying in Montclair, who also stress quality to a greater extent as a reason for Montclair shopping than they do "wide selection".

The only item for which special sales is given as a decisive "elsewhere" characteristic is linen.

The residents of the town were asked, in the survey, "What do you think could be done to make you more interested in shopping in Montclair?" A wide variety of suggestions came through with the emphasis placed on the need for a wider and larger selection of stock from which to choose. Also mentioned frequently was a plea for lower prices and a wider price range. Some of the residents felt that a local department store or additional types of stores would provide inducement for more local shopping.

In addition to a department store, there were requests for a lingerie shop, a good dry goods store, more men's clothing stores, a furniture store, and requests for special sales, better displays, and improved service.

During the first eleven months of 1944, The New York Times published 8,700 columns (2,609,899 lines) more news than any other newspaper.

In order to accomplish this presentation of news, since newsprint is limited, The Times during this period had to omit several millions of lines of advertising offered it for publication.

**The New York Times**

*"All the News That's Fit to Print"*

# WHAT'S GOING ON

*By* JOHN HAHN

### War's Still On

The boys who have been freely predicting early reconversion to civilian production had their rose-colored glasses knocked right off their optimistic noses by General Eisenhower's recent order doubling the production of small arms munitions. That, from the top army man in the European war theatre, should put all of us back on the track of right thinking, and for a while, at least, keep us there.

### Wishful Talk

Apparent unwarranted optimism had repercussions last month in the retail field. Women, expecting too much too soon from an optimistic press release by a manufacturer, rushed into stores looking for elastic girdles. In an effort to save stores further embarrassment arising from premature statements, Lew Hahn, general manager of the NRDGA, issued a public statement requesting manufacturers not to build up consumer expectancy for scarce items until they are actually ready to return their products to the channels of trade.

### Public and Employee Relations

Place "Public Relations" right alongside of "Training" as an important postwar job to be done by retailing. At least, plenty of students of retailing feel that way about it. Of course, there are those who maintain that stores have not suffered as much in the public's estimation as is generally believed, as the result of inadequate and at times, perhaps, indifferent service during the war. The consumer, no doubt, is understanding and sympathetic today of problems leading to service break-downs in all lines of public endeavor and is making tolerant allowances. Whether a sizable proportion will refuse to forget service lapses, over which the stores have little or no control, can only be answered when normal conditions return and consumer reaction can be accurately appraised.

The street floor of Lord & Taylor New York, on December 7, Pearl Harbor Day. The store withdrew all merchandise from sale, and sold only war bonds. A five thousand dollar bond was presented to the holder of the bond whose serial number was drawn by lot in the store on December 11.

We were interested, however, in the opinion of a manufacturer of electrical appliances. He thinks much of what we commonly call Public Relations actually will be Employee Relations. Here is where a big job can be done both in the manufacturing and retail fields, he thinks. He told of asking a merchant located in a city where one of his chief competitors has his plant some years ago why it was that the store was giving him, an "out of towner", such a large part of his business. Naturally, he thought, the town folks would be loyal to home products. He was, of course, surprised to hear the merchant say they were not. Many employees of the local plant, the store man disclosed, were not only not loyal but some disparaged the plant's products with a final "Well, I should know, I work on them." Then, of course, our informant tied up the average store with the case he cited. How many employees boost the store and its merchandise? What a public relations job could be done if all management did a real institutional selling job with employees!

### Bargain Sale

If any further evidence were needed of the whole-hearted backing of the war effort by the retail trade, it is found in the support retail stores this month are giving the Sixth War Bond Drive. Take Lord & Taylor, New York, as one example. Imagine giving up the whole main floor exclusively to the sale of war bonds for a whole day —Pearl Harbor Day—one of the *biggest* Christmas selling days, at that! And in addition offering as an incentive a prize of a $5000 War Bond to the bond buyer who holds the lucky number.

The public good will created must be tremendous—it was the

REMEMBER, YOU ARE LADIES-DON'T PUSH-DON'T SHOVE-NOW TAKE YOUR TIME-EACH ONE WILL BE WAITED ON-MUSTN'T SMACK EACH OTHER-REMEMBER YOU ARE LADIES!

*"That's very good Smith . . . keep it handy so we can post it up the minute Holmes & Edwards Sterling Inlaid Silverplate comes back on sale again."*

*Three favorite patterns*

YOUTH DANISH PRINCESS LOVELY LADY

Copyright 1944, International Silver Co., Holmes & Edwards Div., Meriden, Conn. ° Reg. U. S. Pat. Off.

talk of the town and equally important it went over *big* with employees. Enthusiastic comments during the sale, if they could have been recorded, would have supplied indisputable evidence of the public's approval.

**Postwar Ersatz**

Merchandise managers and buyers, who are thinking that their problem of disposing of unwanted wartime merchandise will end when they get rid of so-called "victory" merchandise, at or about the time the war ends, had better watch out. As quickly as permitted, manufacturers will rush into the production of civilian goods. In many cases and in many lines manufacturers in their desire to get going before competitors, no doubt, will offer the retail trade many items that the public will never accept, and which would be better if never produced.

It is going to take a lot of good sound judgment on the part of buyers to resist the sales talk they are going to get from sellers. Many of these early postwar things will have nothing but forward looking, though not public-accepted, designing to recommend them. After three or four years of operating in a highly restricted market, an abnormal amount of restraint will have to be exercised to keep away from things the public will not accept.

In many lines, too, materials are apt to be put to unsound uses, until experience with new materials and fibers teaches their limitations. From the plastic field, for instance, many new and alluring items are expected, and buyers will have to be eternally vigilant against articles for consumer use made from materials of a nature not recommended for the functions assigned to them by the fabricator.

**Unit Cost Accounting**

Ward Melville's announcement in a recent interview that after January 1 the three shoe chains, including the Thom McAn group, under his control will replace the mark-on method generally used in retailing with a unit cost system, had controllers discussing his intention from the point of view of its application to department stores. Said one: "Controllers, of course, are interested in any innovation that will add to the efficiency of retail distribution. But I question the feasability of its application to department stores with their multiplicity of items. Figuring the cost of selling each individual item, even if we could do it, and I question it, would add materially to the cost of store operation."

"Cost accounting," he continued, "has come to stay in manufacturing because it has proven its efficiency and feasability. But these self-same manufacturers who use unit cost in calculating production costs, have not, as far as I know, ever attempted to apply it to figuring selling costs. They know to the penny what each article or model costs to produce, but when you ask them what it costs to sell any of their models they answer in terms of over-all percentage of costs. In other words, they use the percentage mark-on, just as the average retail store does."

# Join Washington Office of NRDGA

MORRIS R. CLARK

JOHN C. HAZEN

MORRIS R. CLARK and John C. Hazen have joined the staff of the National Retail Dry Goods Association taking over the duties of the late Harold Young and Irving Fox in the Washington office of the Association.

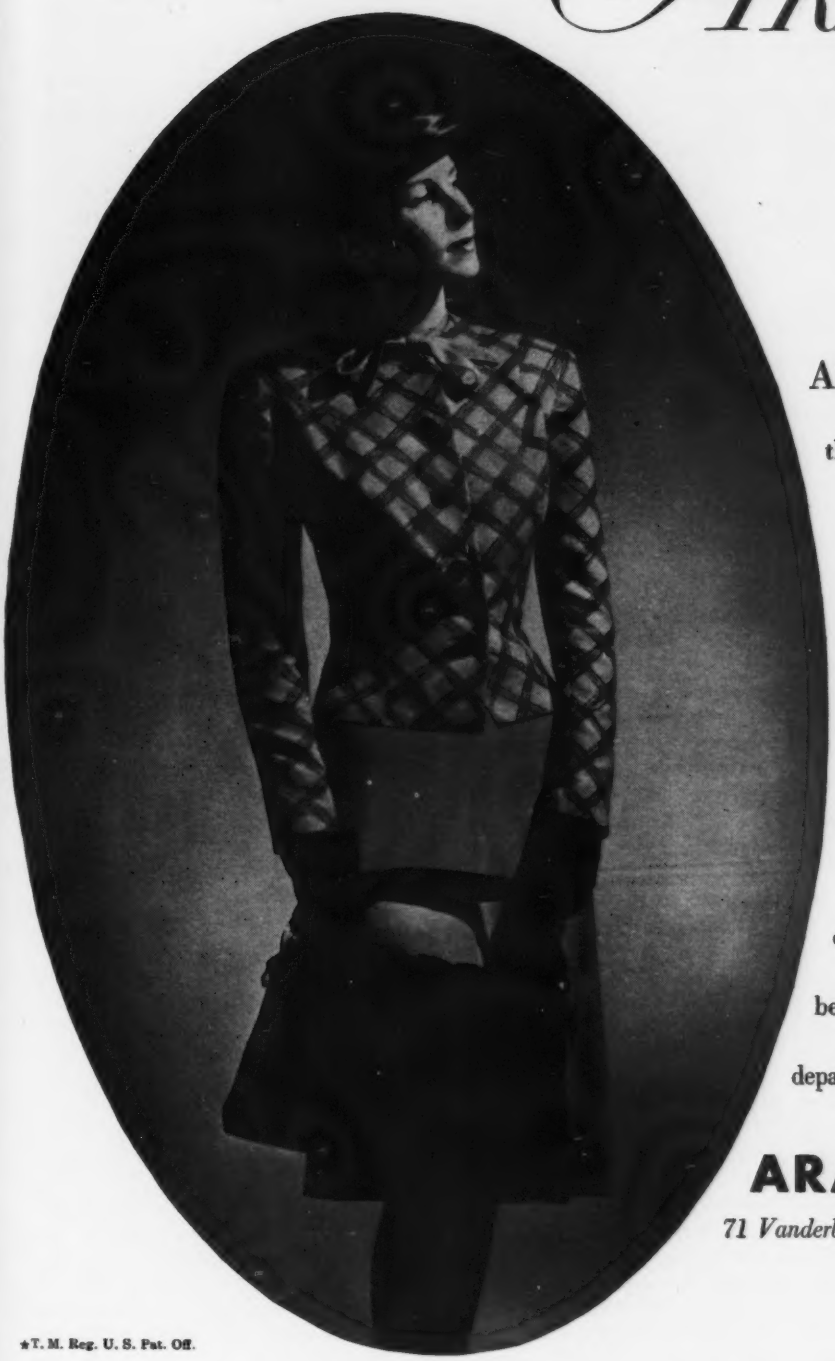
Mr. Clark, an attorney, for a number of years was engaged in important legal work for the Department of Justice in San Francisco and in Washington. Three years ago he was called to active duty in the United States Navy, serving two years in the Pacific, and then was honorably discharged with rank of Lieutenant Commander.

John Hazen was formerly employed by the Chamber of Commerce of the United States, being actively connected with the legislative department of that organization. He has been owner and publisher of two weekly newspapers, one of which he still retains.

**Thought of the Month**

"Economics of today is beginning to realize that labor is vastly more important as a consumer of products than as a producer of products. One can always hire labor or devise machines that will produce, but one cannot buy purchasers. In approaching the problem of future distribution and merchandising, we must in some way double our number of consumers. By applying engineering and a method of research and establishing facts in the minds of men, we can solve the postwar consumer-, and therefore labor-, problem with a fraction of the effort that can be accomplished by the mere passing of casually thought-out, man-made, opinionated and politically influenced dictums."—William B. Stout, *Director of Research, Consolidated Vultee Aircraft, before the convention of the American Society of Engineers, in New York.*

# WHAT IS ★ARALAC?



ARALAC is the man-made fibre that adds warmth, life, resilience, softness and beauty to blended fabrics. That's the simplest way to answer a customer's question. An even better way is to *show* her an ARALAC fabric . . . Wesalac, for example, a blend of rayon and ARALAC that is being featured in yard-goods departments.

**ARALAC, INC.**

*71 Vanderbilt Avenue, New York 17, N. Y.*

★T. M. Reg. U. S. Pat. Off.

ARALAC, produced by a division of NATIONAL DAIRY PRODUCTS CORPORATION, represents but one of the many contributions this nation-wide organization is making toward the more efficient utilization of America's agricultural resources.

# Hosiery Industry Takes Cut of 18% on Rayon Yarn

*By* PEARL BERRY

THE hosiery industry has at last been informed of specific cuts on rayon yarns, which it is estimated will amount to 18 per cent on orders taken from December 1st for shipment after January 1st. This, we are informed, will mean a substantial cut in production of women's full fashioned and seamless hosiery.

The new regulation, we understand, will more nearly equalize quantities of yarns to manufacturers. Distribution of yarn to manufacturers has been "complicated" in the past just as the rayon order in itself is complicated. Some mills have been entitled to receive more than others because of circumstances affecting yarn manufacturers and individual hosiery manufacturers. We hear that actually some mills will not feel the new cut due to the fact that many did not get, even through the "free" market, the 85 per cent monthly poundage to which they were entitled. It is thought some mills will feel the cut keenly. For some time the "free" market has been shrinking and we understand that at present it is practically nonexistent.

On the whole, the hosiery industry tells us, they feel they have been fairly treated in view of the shortages of rayon in general for civilian use. However, many are disturbed by the thought that additional cuts may be forthcoming in the future which could seriously hamper production. The industry states that it is willing to take a fair share in cuts of yarn but they are on the alert to see that in the future they will not have to take more than that.

### L-274 Remains

J. A. Krug, chairman of the War Production Board, announced late in November that L-274 Order on hosiery would not be revoked immediately. Consideration has been given this recommendation, but, said Mr. Krug, "Subsequent developments reflecting increased tightness in the textile supply situation, due to the prolongation of the war in Europe, do not make it possible to permit revocation or even relaxation of the Order at this time."

### New Heel Construction

It has been some time since the hosiery industry has evidenced anything new in the way of construction, but the Gotham Hosiery Co. has announced a revolutionary change in heel construction. The new design is based on a patent granted to Max Miller, one of the country's leading knitting machine designers, and is exclusively licensed to Gotham. Under the new patent, the heel of the stocking is knit at right angles to the leg, without, they say, an objectionable square tip which is characteristic of the old French heel and without the danger of wrinkling at the instep which is characteristic of the round heel generally used.

We are told that the new heel is a direct result of the use of rayon in women's hosiery and of a general economy resulting from knitting the entire stocking on one machine instead of two. It was stated by Gotham that this improved fit for present-day rayon will make the postwar nylon hosiery better than ever.

### Self-Heating Sock

A sock-like foot warmer is being put out by Hosecraft Mills which they say is unique. An unusual original process gives each foot warmer the tendency to grow warm as friction is applied and thus, they claim, it becomes self-heating, for when the interiors are rubbed together, the sock warms up like a heating blanket. They may be worn while sleeping, lounging, traveling, etc., and Hosecraft informs us they have been successfully used by soldiers in cold climates. However, we understand they have only foot warmers in quantity stocks for women, at present.

### Floor Space Dwindles

Hosiery displayed this season is less interesting than other years. Most departments, we find, have gradually reduced their floor space. Those hosiery departments which have managed to retain original space, are those which went in for novelties such as "leg paint" after ski-socks, cocktail socks, etc. While these items are seasonal, one item or another, we are told, *can* hold interest in the hosiery department and keep customers coming to the department for "leg interest." Christmas business figures, that is on early business, are being bolstered, we are informed, largely through the sale of novelties which usually run higher per unit sale than usual merchandise. One store we know of has been featuring fancy "fireside" socks since their inception, and can get sufficient stocks from their sources for medium priced promotions beginning at $2.95. This department has not appreciably reduced its floor space and expects holiday figures will stand up well against those of last year. Furthermore, this store is figuring, they tell us, on having salespeople push "foot warmers" through the coming months as long as the weather is cold. Morale is at a high pitch in this department because the department head takes time to see that it is kept up despite shortages of the much wanted sheers.

## Antique Button Display

A recently acquired collection of antique pearl buttons is on display at the showroom of Bailey, Green & Elger, Inc., in New York. The collection originally came from England in 1876 and was exhibited at the Philadelphia Centennial where it received a first award. In 1883 it was awarded a gold medal for beauty and fine workmanship at the Cincinnati Exposition.

Most exquisite are the decorative carved buttons in white and black, made for women's gowns. The larger sizes would sell at retail today from $35 to $50. They look as fashion right today as they did when they were made. Most dramatic is a series of white pearl buttons in 23 sizes, each carved in the shape of a peacock. Every feather is etched in detail.

*For a really Happy Holiday Season—our Best Wishes to all, and especially to the millions of men and women who wear our country's uniforms. As proud as they are to wear these uniforms, there is no doubt that it will be a happy day for them. —and for us all—when they can put away in mothballs the costumes of War, and don again the costumes of Peace.*

*Whichever costume Milady wears—if it's Dura Beau finished, it's better looking, longer wearing. Dura Beau imparts to fibres and fabrics "the film of protection," making good fabrics better and attractive fabrics beautiful.*

**Scholler Bros., Inc.**

Dura Beau finishes
Reg. U.S.A. and Canada

**Mfrs. of Textile Soaps, Softeners, Oils, Finishes · Collins & Westmoreland Sts., Phila. 34, Pa. · St. Catharines, Ont., Can.**

# Corset Industry Now Faces Shortage of Substitutes

By Pearl Berry

THE retail trade is highly disturbed by recent statements by corset manufacturers that production for early 1945 may be more seriously curtailed due to lack of necessary materials. While buyers right along have recognized that the situation is bad and the predictions for the first six months of 1945 have been anything but encouraging, statements at recent meetings of the Corset and Brassiere Association of America and the Associated Corset & Brassiere Manufacturers stressed tightness of supplies, predicting that unless action is taken by government, shortages of materials and manpower for spring and summer deliveries will be well behind 1943 quotas. However, a ray of hope was contained in the belief that WPB is sympathetic to the needs of the industry and the importance of foundation garments to the health of women. It was pointed out, nevertheless, that even if WPB is inclined to ease the situation, it will take time and no immediate relief is anticipated.

Speaking of the raw materials for corset manufacture, Edward S. Axline of H. W. Gossard and chairman of the Raw Material Committee, said that perhaps we began to condemn wartime substitutes prematurely. Now, he continued, a lot of these substitutes are no longer available and there is nothing left to take their place. He pointed out that complaints are coming in on shortages of substitutes which, not so long ago, were complained about because of their inability to fulfill previous functions.

As to raw Neoprene, that synthetic so desired by the industry not so long ago, Mr. Axline said that it was not running nearly so well as that which was available last spring. Consequently, he said, thread manufacturers are having their troubles. He added, however, that "fortunately, the majority of this trouble is in the handling of the Neoprene and the making of the thread, and there are at least some synthetic rubber threads on the market that appear to be quite reliable according to all of the tests we have been able to give them in the time that has been available."

Mr. Axline pointed out that it takes considerably more synthetic thread than natural rubber to make a hundred yards of elastic fabric. "On the whole," he said, "the fabric manufacturer does not feel it advisable to stretch the synthetic rubber as tautly as the natural rubber. Very often heavier sizes of synthetic rubber are being used than was the case with natural rubber. For instance, most of the cloth is made from synthetic rubber thread no finer than 75 in size, while 90's and 105's were the standard size for elastic clothes made from natural rubber. That means that more pounds of synthetic rubber thread or elastic yarn is consumed per yard of fabric."

Mr. Axline spoke of the manpower shortage situation as well as the shortages of yarns with which the thread must be wrapped. It is hoped, he concluded, that sufficient ceiling prices will provide incentive for increased production of materials suitable for corset manufacture and sufficient manpower available for fabrication. However, he does not see a date when this can be predicted due to the fact that future military needs are unpredictable.

William Weinstein, president of the Associated Corset and Brassiere Manufacturers, at a recent meeting of its members, confirmed the statements made in the above paragraphs. He said: "The immediate outlook for corset and brassiere fabrics and OPA plans for the new order presages the need for manufacturers to be in a flexible position in order to adjust production as new developments occur." It is hoped, added Mr. Weinstein, that WPB will assist the industry in making available some of the findings now scarce, such as interlining, binding, stripping, etc., without which the industry is stymied.

The industry in general tells us that as long as the government requires canvas in great quantities, there is little likelihood that elastic webbing production for civilian use will be increased despite availability of synthetics and all-over production of cotton yarns. Lend-lease, we are informed, is taking enormous amounts of tenting for occupied territory for temporary shelters as well as for ceilings, walls and even window covers.

# Samuel H. Camp, Pioneer, Is Dead

Samuel H. Camp

THE retail trade, the corset industry and many in the medical world lament the deaths of Mr. and Mrs. Samuel H. Camp last month. Mr. Camp was widely known as a manufacturer of scientific medical and surgical supports and was highly honored for the high standards he maintained in production and distribution. He will be remembered long by countless benefactors for his philanthropic activities, which were many and far reaching. Mrs. Camp, too, will be remembered by the retail trade for her graciousness as hostess at the Camp School held each January in New York City.

Because of Mr. Camp's contributions to the scientific world he won the Pioneer Award of the National Association of Manufacturers. His "Transparent Woman," made of transparent cellhorn with an electrical system of colored lights illuminating bone and organ

*Prices attached to lace in the 1880's? My dear chap, how could you avoid serious damage to the goods? Clerks had to comb their side whiskers and remember their prices when Mamma brought out her diminutive purse and Auntie came fully equipped with magnifying glass.*

Illustration from Bettmann Archive

# . . . and then Came Dennison Price Marking

If memories had been infallible in 1880 every customer would have been quoted the same price on a given item. Questions about materials would have been answered correctly by the gentlemen behind the counter. But experience proved that then, as now, salespeople were only human.

And with the growing need for price marking, and for coding of materials and color, Dennison worked with store executives of the day and provided simple, easy, hand methods for attaching vital sales information to items offered for sale.

Today's Dennison Pinning Machines go another step. They print price, code and material, and attach tickets to the most sheer fabrics without soil or damage. Single or control tickets are printed with one setting of type and the whole operation is done in the time it takes to touch a control lever. Good? It's marvelous! But keep your eye on Dennison for new speed and convenience in price marking.

**DENNISON MANUFACTURING COMPANY, 52 HOWARD ST., FRAMINGHAM, MASS.**

***STRAIGHT PIN— PREVENTS DAMAGE***

*Straight pin, concealed point, prevents scratched fingers, eliminates those catches in fine fabrics.*

1844-1944

Dennison
PINNING
MACHINES

***STRAIGHT PIN— SAFE TO REMOVE***

*Straight pin, readily withdrawn, can't damage merchandise; makes ticket removal safe and easy.*

1844-1944

structure of the body and built at the approximate cost of $25,000, was first exhibited in 1936 at the New York Museum of Science and Industry of Rockefeller Center, and later toured the country where is was viewed by thousands. It is now on permanent display at the Museum of Science and Industry in Chicago.

After having established his products with the medical profession, Mr. Camp made many of his garments available to retail stores and trained fitters to fill physicians' prescriptions for them. Seven years ago, he established National Posture Week, recognized by schools, colleges, consumer groups and retail stores. Each year Posture Week is taking on added significance. The Samuel Higby Institute for Better Posture located in Empire State Building in New York City, was endowed by Mr. Camp as a permanent institution for the promotion of better health, and there information is made available on requirements of physicians and educational and consumer groups.

Christian H. Flek, vice-president of S. H. Camp & Co., and well-known in the trade, will take over the affairs of the firm for the present it is announced.

## New Rayons Approach Perfection

INTERESTING postwar rayons were exhibited in finished garments to the press in November. (A limited quantity is promised for delivery beginning this month.) The presentation was sponsored by the Ponemah Mills and the rayons were of a new denier American Viscose rayon staple, claimed to be the finest fiber to date and perfected during wartime for exacting military needs. The garments were made by some of our finest and most noted couturiers. The showing was put on with "circus" hi-jinks which may have pointers to some stores contemplating a fabric-finished-garment promotion.

The fabrics are said to have high tensile strength when wet as well as when dry and have unusual launderability, drape, figure flattery, eye appeal, softness, moisture absorbency, crease resistance, quick-to-iron and dry qualities, which facts were demonstrated by "sideshow" performers. A sideshow, billed as "The Six Wonders of the World" presented the materials of six converters who have developed this new type of rayon in various finishes and prints to produce a diversity of fabrics suitable for all kinds of garments.

The "Siamese Fabric Twins" were dressed alike in teen age frocks which had been washed by laundries selected at random to show their washability. It is promised that these "soap bubble dreams" have remarkable qualities and have been subjected to and passed the rigid tests of non-shrinkage, boiling in a strong soap solution as well as in chlorine, as well as the light and hot iron tests.

It is claimed that these fabrics are practically crease-resistant and almost self-ironing. A "Human Pretzel" demonstrated a garment which had been packed and hung free for a couple of hours, was then wearable and could further withstand creasing through many contortions of the wearer.

Other "circus" models exhibited other uses of the fabrics, from intricate costume designs to evening gowns as well as from playclothes to other hard-wear garments. Stressed was their ability to take washing, cleaning, storing and packing as "easy to care for" fabrics.

Color fastness, resistance to effects of water, and quick-drying qualities make the new fabric suitable for use in bathing suits. A Belding Hemingway print.

Ponemah Mills say that the blouse shown here can be washed, ironed, and worn inside 30 minutes. Manufactured by Sidney Heller, it has longer shirt tails in front, can be tucked in or tied midriff fashion.

# Burroughs Leads . . . . in dependability of mechanical service

**Burroughs Mechanical Service Provides These Advantages**

1 Burroughs service is rendered by factory-controlled, factory-trained, salaried representatives whose work is guaranteed by Burroughs.

2 Every Burroughs service office is stocked with genuine Burroughs parts to meet any service need.

3 All Burroughs service men are promptly and fully informed about every improvement in service, every new feature or mechanical change.

Business men will remember for long after the war that Burroughs *didn't let them down* when the going was tough. The Burroughs organization maintained its smooth service while many service organizations were finding it impossible to give satisfaction.

The dependability of Burroughs Mechanical Service in wartime didn't just *happen!* Today's experienced, highly-trained service organization is the natural result of a farsighted policy of careful planning, constant study, continuous training and close supervision . . . a policy adopted in recognition of the fact that a product can be no better than the service rendered.

Business men realize now more than ever that when comparing machines an important factor is *dependability of service*—still another point of superiority in Burroughs machines . . . still another way in which Burroughs leads.

BURROUGHS ADDING MACHINE CO., DETROIT 32

1st Burroughs

IN MACHINES
IN COUNSEL
IN SERVICE

FIGURING, ACCOUNTING AND STATISTICAL MACHINES • NATIONWIDE MAINTENANCE SERVICE • BUSINESS MACHINE SUPPLIES

# New Colors and Silhouettes Are Launched by Millinery Guild

"A SALUTE to the Liberated Nations" was the theme of the fashion show presented by the Millinery Creators Guild last month. Eight new colors were introduced, each named in honor of one of the liberated nations. Members of the Guild said that the aim of the presentation was to show hats that were both fashionable and wearable.

The first group of hats shown was in "Balkan Rose," named in honor of Bulgaria. This new shade is warm and glowing and suited to the flower trimmed models presented by Jeanne Tete. Many were designed to be worn well forward and the trimming consisted of sprays of silk roses in this new color. Outstanding was a flat-crowned sailor of satin, trimmed with a circle of roses of the same material. Straws, felt and fabrics of the same shade were used in models that varied from small forward tilting models to huge "casuals."

In tribute to Rumania, a combination of white and mocha named "Rock Crystal" was used by Edgar Lorie. Materials ranged from toyo, felts, smooth straws, Swiss braids and hairbraid, to velvet and flowers or veiling and flowers. Feathers and ribbons were also used as trimming. Silhouettes included the breton, small discs, and brimmed hats from small to large sizes. Many of the brimmed models were made with soft, rolled brims to give the illusion of greater size.

"Netherlands Orange," in honor of Holland and the House of Orange was a featured color used by Bernice Charles. A color resembling a coral lacquer, it was combined with cornflower blue, and the collection was designed to give the appearance of height. Irregular brims were shown and shiny straws were featured. A cap of felt was shown for the back of the head with front trim of loops of cornflower ribbon to give additional height effect.

Honoring Belgium, Vogue showed a collection in "Star Sapphire" blue which was also designed for the illusion of height. Turbans were featured as well as toques and small forward tilting hats made of feathers in this color. Noted was a turban draped high in the front with two clusters of feathers placed over the sides to provide a deep head-fitting effect.

Turbans, discs, plateaus, cup shaped bonnets and brims of all sizes were included in the collection of G. Howard Hodge. These were made of a variety of braids, petit point, jersey lustre, tapestry, Burma thatch and Swiss bandings in lacy patterns. All these were in "Goddess Pink," a deep pink named in honor of Greece. Trimmings were in the same shade of pink, self-trimmed or with feathers of owl, ostrich and burnt goose.

In honor of France, Harryson showed hats revealing the Directoire influence, developed in a yellow-green tone known as "Vertone." Bonnets, sailors and chignon bonnets had deep, molded, head-fitting crowns. Peco milans, rustic braids, felts and shiny straws were used and trimmings were of gaily printed scarfs, plaid ribbons, face veils and flowers.

"Mountain Dovewite", a soft natural grey, was used in felt and fabrics by Milgrim and named in honor of Yugoslavia. This collection ranged from a small side-profile brim trimmed with shiny red currants to a large cartwheel with a rolled brim trimmed with sequins and beads in purple. Turbans were shown and a sailor to be worn well forward, wreathed with a circle of leaves in cut-out effect.

Germaine Montabert used a vibrant blue named "Valiant Aqua" in honor of Luxembourg. A variety of silhouettes was shown and sizes ranged from small feathered discs to large cartwheels of milan.

Launched by the Guild and we are told exclusive with them were a group of double-disc hats. These hats have a large double faced brim and a soft cushiony edge and are made of imported Swiss handsewn straws which can be draped into a variety of effects.—P. B.

The "Double-Disc" silhouette in a G. Howard Hodge interpretation. The profile brim is of hand sewn Swiss straw braid, the scarf of silk fishnet embroidered in wooden beads.

A deep, head-fitting bonnet with a high crown, designed by Harryson in the new yellow green called "Vertone." The bonnet is trimmed with silk flowers and worn back of the hairline.

## New Rayon by Kleinert

A new lightweight rayon called Fabulon has been introduced by the I. B. Kleinert Rubber Co. in dress shields, shower curtains, shower caps, and skirt shields. Later, it will be used as well in baby pants and other types of merchandise manufactured by the company.

The material was originally developed to meet government demands for an exceedingly light and strong material to use in parachutes. It is highly absorbent and said to be equally as strong when wet as when dry. Fabulon is being used in three weights, and with different coatings to meet specific merchandise needs.

# THE MOST IMPORTANT MUST

## IN YOUR BLUEPRINT OF POST-WAR PLANS

**REBUILD . . .**

**REVITALIZE . . .**

**RE-EDUCATE YOUR SALES FORCE**

- You must relift your sales force to the highest possible selling standards.
- You must retrain them in the adherence to the rules of store system.
- You must enlighten them in the proper attitude to and treatment of customers.
- You must continually—constructively teach, test and correct your sales force in the proper selling and cash handling methods.

Post War conditions will insist upon sound and concrete means of satisfying and retaining more and more regular customers.

Plan now to include the Willmark Program in your post war blueprint of action to re-educate, rebuild and re-vitalize your entire sales personnel.

**27 Years of Business Building**

*Available in every city in the United States*

# WILLMARK SERVICE SYSTEM, Inc.

**CREATORS OF GOODWILL • 250 WEST 57 ST., NEW YORK CITY**

# The Average Sale Figure and Its Effect on Expense Ratios

**Readers comment on analysis by F. H. Gibian pointing to an average wartime increase of 10% in this figure among departments which still have goods to sell.**

TO THE EDITOR:

I heartily agree with Mr. Gibian's conclusions in the article, "Real Cause of 1943's Low Expense Rate was a 10 Per Cent Increase in Average Sale" [THE BULLETIN, October, 1944.] . . . We at Macy's made a similar analysis covering the years 1937 through 1943 and arrived at the identical conclusions.

I might add that a total store average sale figure is, in my opinion, of little, if any, value. The composition of store volume as between high salescheck and low salescheck departments has such an important influence on the total store average sale that a comparison of this figure taken by itself is of little real significance. This phenomenon is of course greatly accentuated in a war-time economy.

I have long felt that the most significant figure regarding the expense control phase of department store operation is a comparison of the *variable expense cost per transaction*. As Mr. Gibian points out, all department store operating costs can be divided into two broad categories, i.e., *variable* expenses and *fixed* expenses. Over a period of years, especially in normal times, the dollars of fixed expenses remain fairly constant, so that any increase in *sales* is bound to result in a reduction of the fixed expense ratio to sales. Variable expenses should be related only to *transactions*, since the cost of handling a $2 shirt, for example, is the same as that of a $3 shirt.

This concept of fixed and variable expenses ties in closely with the *contribution theory* of department store accounting. In my opinion, Mr. Gibian's statement is most timely since it again highlights the need for the craft to accept this theory "right across the board". Only in this way will we get significant operating comparisons.

J. J. THURSH,
*Vice President & Controller,*
*R. H. Macy & Co., Inc.*

TO THE EDITOR:

. . . Mr. Gibian's article omits an element which, to my mind, must be taken into consideration in any study of the effect of increase in average sales . . .

The element to which I refer is that of "Merchandise Margin". After all, net operating profit is the figure in which we really should be interested and net profit, of course, is the neglected element of merchandise margin less expense.

Let me illustrate my thought. He uses a basis of $100 of sales at an expense of $30. The question is, what was the net profit in this sale, and net profit cannot be determined unless we know merchandise cost. Let's say it was $65, a resultant merchandise margin of $35 from which the deduction of $30 expense gives the net of $5. Then Mr. Gibian uses a 5 per cent increase in sales or a sale of $105. The question is how much more than $65 will this $105 cost the department store. If OPA allows an increase by the retailer of $5, it may allow his supplier an increase of $5 to a merchandise cost of $70 and, of course, OPA has tried to constantly keep a retailer's line of margin. Selling at $105, with a merchandise cost of $70, gives us exactly the same result as selling at $100 with a cost of $65. The merchandise margin in each case is $35, the expense is the same at $30 and the net is the same at $5.

However, if the increase in sale to $105 can, under OPA and all other Government regulations, be held to a merchandise cost of $65, with the same expense of $30, then the merchandise margin, of course, will be $40 and the net $10, or an increase of 100 per cent in net. If OPA, allowing an item to be sold at an increase of $5 by the retailer, allows the supplier to increase his price to the retailer to $67.50, then the merchandise margin of the retailer is $37.50, with the result that the expense remaining constant at $30, net will be $7.50 to the retailer, or an increase in his net of 50 per cent.

Just one more example. OPA allows a price of $105 for the item when sold by the retailer, and allows his supplier to charge the retailer $69.50. Merchandise margin is then $35.50; deduction of the constant $30 of expense leaves a margin of $5.50 for the retailer, an increase of 10 per cent.

The point I am trying to make is that a study like this means nothing to me without being correlated to markup.

[*Name withheld by request*]

TO THE EDITOR:

. . . I do not understand Mr. Gibian's distinction between an increase of sales, which is caused by a change in the average sale, and an increase in sales, which is caused by an increased number of transactions, with respect to the effect on the expense percentage. Increased transactions will cause a greater packing and delivery expense, but other than those, I would believe that the effects will be the same regardless of which reason causes the volume change.

This point could only be of importance if a store were to apply Mr. Gibian's reasoning so as to refuse more transactions and invite higher price lines at the expense of a greater number of sales.

BERNARD BROWN,
*Controller, Lit Brothers*

TO THE EDITOR:

. . . In my opinion, the lowered expense rate is almost entirely attributable to both the increased average sale and the much larger number of transactions. In other words, volume has covered a multitude of sins for us. Operations are not being accomplished on a more economical nor efficient basis, even though some services have been curtailed. We are compelled to use less efficient personnel and greater numbers.

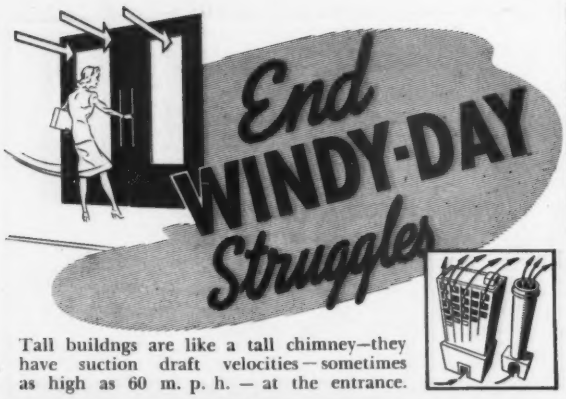
J. W. STEINHAUSER,
*Treasurer,*
*The F & R. Lazarus & Co.*

# SUPPORT

Until the last knock-out blow is delivered to the Axis Powers it is our job at home to continue backing our Armed Forces by buying

## MORE WAR BONDS

INTERNATIONAL BUSINESS MACHINES CORPORATION




Tall buildngs are like a tall chimney—they have suction draft velocities—sometimes as high as 60 m. p. h. — at the entrance.

Don't force people who enter your store to struggle with swing doors on windy, winter days when wind pressure makes swing doors difficult—if not impossible—to operate.

Revolving doors elminate "door-tugging." They are "balanced"—revolve with ease in 30 to 60 mile winds. Customers appreciate their convenience.

**Cut Heating Costs Up to 25%**

Revolving doors cut heating bills. They are draft-proof—hold cold air out; warm air in. Smaller heating units can be used, saving on initial costs.

Investigate now the many advantages of Revolving Doors. Learn why present users are so enthusiastic. Then let us help you plan your Revolving Door now for delivery as soon as the war is won.

*Write for Free Data Folder*

***5** Ways a Revolving Door Pays for Itself*

ARMY E NAVY

1—Cuts heating and cooling costs.
2—Increases usable floor space.
3—Reduces damage from dust and dirt.
4—Assures customers' comfort.
5—Safeguards employees' health.

Revolving Door

DIVISION of INTERNATIONAL STEEL COMPANY

★INTERNATIONAL
★VAN KANNEL
★ATCHISON

Evansville, Ind.


# January Conference Program

(*Continued from page* 15)

TUESDAY NIGHT:

**How Can Smaller Volume Stores Meet the Competition Ahead?**

Using Your Advantages as a Locally Owned Independent Store—Is Central Buying a Partial Answer?—The Specialty Store Looks Ahead—Strengthening the Organization.

WEDNESDAY MORNING:

**Employees—Jobs in Retailing**

Re-employment of Veterans—Re-staffing Stores for Peacetime Operation—Job Analysis and Job Evaluation—Attracting Better People to Retailing.

WEDNESDAY AFTERNOON:

**Selling—The Key to 55 Million Jobs**

Distribution's Part in Postwar Economy—Gearing Store Operations to Better Selling—Personnel Administration's Contribution to Better Selling—Importance of Consumer Credit in Postwar Period.

THURSDAY MORNING:

**The Store Plant—Postwar Modernization**

Dressing Up Main Street—Place of Visual Merchandising in Modernization—Panel Discussion on Store Modernization and Planning.

THURSDAY AFTERNOON:

**Your Customers—Postwar Public Relations**

Outlook for Postwar Purchasing Power—Need for Sound Public Relations Program—Place of Advertising in Store Plans—Reappraisal of Store Services.

THURSDAY NIGHT:

**Annual Banquet**

An exceptionally fine program has been prepared for this retailers' annual dinner. Donald Nelson will be special guest of honor, and will be cited for his distinguished contribution to the war effort. Mr. Nelson is expected to speak.

Special guest speaker will be Governor Raymond E. Baldwin of Connecticut, whose subject will be "World Business After the War."

There will be more group, or technical, sessions during this coming Conference, but they have been so arranged as not to conflict directly with any of the general sessions. Group meetings will be held by the Merchandising, Control, Store Management, Sales Promotion, Personnel, Traffic and Delivery groups. An entire day will be devoted to discussion of television.

The traditional Annual Open Forum Luncheon of the Association of Buying Offices will be held on Monday, the opening day of the conference. The main address will be delivered by Leo M. Cherne, of the Research Institute of America. His subject will be "1945—A Year of Management Challenge."

# IT'S A WISE MAN THAT LOOKS AHEAD

## WISE MAN NO. 1

A likely lad named DaVinci looked ahead 500 years to predict the invention of the airplane.

(*he was a genius*)

## WISE MAN NO. 2

A bright boy named Jules Verne looked ahead 20 years to predict the invention of the submarine.

(*he was inspired*)

## WISE MAN NO. 3

A smart fellow named Jones looked ahead one week to predict a good night's sleep at the Hotel Pennsylvania.

(*he made a reservation*)

With the city crowded the way it is, even Hotel Pennsylvania's 2000 rooms are sometimes completely occupied. That's why a truly wise man follows these Golden Rules. They'll help you and help other fellows in the same boat:

- **Make reservations well in advance, specifying hour of arrival and date of departure.**
- **Cancel unwanted rooms promptly.**
- **Release rooms as early as possible on the day of departure.**

*Join the "GOLDEN RULE CLUB" today!*

# HOTEL PENNSYLVANIA

**The Statler Hotel in New York—opposite Penn. Station**

## Unit Cost Accounting

(*Continued from page* 20)

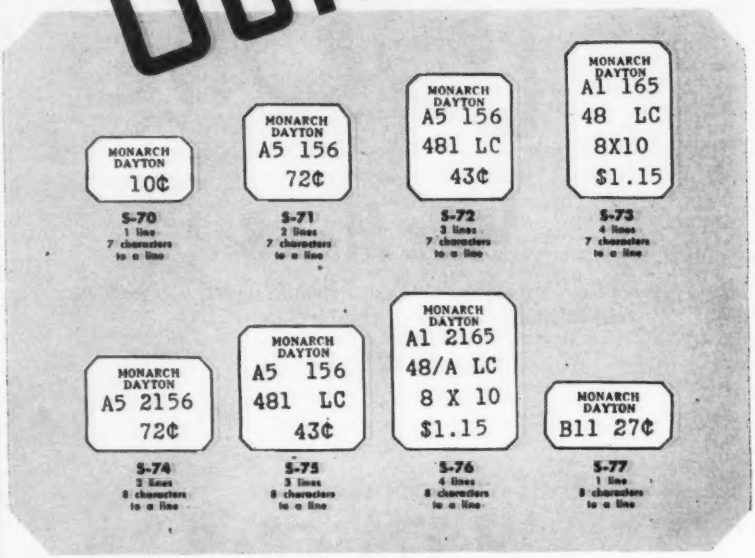
items will be sold actually at a loss, and others at an unusual profit—although those facts do not now appear on the books.

There is no doubt in my mind that in thousands of retail stores of this country, at this moment, the rate of markon which is being used to establish prices for certain merchandise is insufficient to cover the actual expenses involved in distributing that merchandise. If a retailer uses the same percentage markon in a shoe department for $8 and $4 shoes, he is assuming (if he supposes that the realized margin has any accurate relation to unit costs) that the cost of stocking and selling a $4 shoe is less—much less—than the cost of stocking and selling a $8 shoe. If he uses a uniform percentage markon in his shirt department (as a great many retailers in this country still do) and applies this to all price lines, the result will almost inevitably be that some shirts are priced considerably above the cost of handling and selling, and other shirts are priced below. Does it cost more to handle a $4 shirt than to handle a $2 shirt? Of course, there may be a difference in sales commissions paid, in possible markdowns and in investment charges. The question is, however: *After* allowing fully for all such differences, are the costs of handling *as far apart* as the dollars-and-cents margins on the $4 and $2 shirts would indicate? Would anyone seriously argue that the application of a uniform percentage markon to merchandise of widely differing character and prices can or does reflect the actual cost of distributing those different items of merchandise?

### Specialty Men Better Informed

We might note that the difference between book costs and actual unit costs is undoubtedly *less* in specialty chain stores than in any other type of retail store. For one simple reason: In these stores, which often sell one major product at one price, *all* costs are bound to be fairly close to units costs. The specialty one-price operator,


Senso LABELS




Now—

YOU CAN PRICE-MARK DIFFICULT AND SENSITIVE SURFACES WITH

MONARCH Senso LABELS

REQUIRE NO MOISTENING

Monarch Senso Labels adhere instantly, are easily attached to a wide variety of difficult surfaces. Monarch Senso Labels are readily removed and leave no marks.

Price-Mark With MONARCH

Senso Labels Such Surfaces as China, Glassware, Toilet Articles, Toilet Accessories, Jewelry and Flatware, Books, Shoes, Metal Articles, Housewares, Greeting Cards, Cellophane Wrapped Merchandise.

Choice of 8 Different Sizes

THE MONARCH MARKING SYSTEM CO.
DAYTON, OHIO
TORONTO, CANADA • LOS ANGELES, CAL.

# YOUR *TRIPLE* SHARE IN PUTTING OVER

MR. AND MRS. AMERICA EVERYWHERE

# THE 6th U. WAR LOAN!

**NOV. 20th TO DEC. 16th**

## 1 ENTER THE BIG 6th WAR LOAN DISPLAY CONTEST . . . OVER $100,000 IN WAR BOND PRIZES!

Look now to see if your store is eligible to enter this history-making Display Contest. If it is, get in touch with your Local Retail Chairman today—secure your copy of the Campaign Book, explaining how you can win, not one prize, but THREE—over $1,000 in War Bonds—and a Treasury Citation! Main Street or Fifth Avenue, all have an equal opportunity. Entries are judged solely on Sales and Attention Appeal, Artistry and Originality, so lose no time in setting up your prize-winning display.

## 2 ENLIST EVERY EMPLOYEE IN THE 3rd ARMY!

Today the over-a-million strong 3rd Army of Retail Bond Sellers backs both our Fighting Army, advancing against the Axis on land, sea and in the air, and our Production Army on the home front. Are all your employees numbered in this gigantic, victory-speeding 3rd Army? If not, your Local Retail Chairman will tell you how they may best serve!

## 3 FEATURE WAR BONDS IN YOUR NEWSPAPER ADVERTISING

War Bonds—the present with a future—deserve first place on every Christmas shopping list. Help the 6th War Loan by giving War Bonds first place in all your store advertising.

6th WAR LOAN

## STORES ELIGIBLE FOR 6th WAR LOAN CONTEST

| DIVISIONS | SPONSORS |
|---|---|
| Department Stores | Textron, Inc. |
| Hardware Stores | Henry Disston & Sons, Inc. |
| Jewelry Stores | Bulova Watch Company |
| Grocery Stores | General Foods Corporation |
| Drug Stores | Abbott Laboratories |
| Women's Apparel Shops and Specialty Stores | Nemo Foundations |
| Men's Apparel Shops | Cluett, Peabody & Co., Inc. |
| Gasoline Stations and Garages | Shell Oil Co., Inc. |
| Radio Stores | Sylvania Electric Products, Inc. |
| Furniture and Floor Covering Stores | Congoleum-Nairn, Inc. |
| Limited Price Variety Stores | The Clopay Corporation |

OTHER RETAIL GROUPS may be added. See your Local Retail Chairman if your store is not included in above divisions.

*The Treasury Department acknowledges with appreciation the publication of this message by*

**THE BULLETIN**

*This is an official U. S. Treasury advertisement—*
*prepared under auspices of Treasury Department and War Advertising Council*

through his concentration on one product at one price, has actually operated on the basis of unit costs and unit profits when he applied the old standard percentage methods. Even the operator selling many items—but at a single price—automatically comes nearer to pricing on the basis of unit costs.

### Copying Specialty Pricing

In a good many cases during the past twenty or thirty years, as we all know, the operations of specialty chain store distributors have forced changes in prices and margins on the same or similar items carried in competing non-specialty stores. What has happened, stated in the terms of my simplified argument, is that competition has forced all distributors to revise their ideas to accord with the experience of a distributor who *happened* to base his pricing upon unit costs.

The stores adopting these revised prices and margins, however, have done so without knowing whether or not their own true costs were covered, or more than covered. They may have been marking the item *too high,* in relation to their own costs, all along. And now they may believe they are marking it *too* low because of special competition which must be met. Do they really know?

We need a new type of distribution cost accounting—an accounting that will get us much nearer to unit costs. *Until* it gets as near as it can to unit costs, distribution accounting and distribution itself will not be on anything like a scientific basis.

I am aware of the thorny problems which arise when we talk about the development of distribution cost accounting methods. There must be ways, however, that progressive retail distributors can get close to the true costs of distributing specific goods, as a basis for determining markons that will cover true costs.

The discovery of such a method, and its widespread application, might well lower the prices of many products to the consumer. Of course, it might also increase the prices of others—that is, if those other products should continue to be sold at high costs or through high-cost channels. The net effect, I feel sure, would be a *lowering* of total distribution costs, since the inevitable tendency would be for distributors to concentrate on items where their true costs *were* or *could be* low enough to permit sound competitive prices and a reasonable profit return.

We have seen this happen in the manufacturing field. We know that in a factory where there is no real guide for pricing other than *total* costs, many inefficiencies and uneconomic practices are *concealed.* These practices raise total costs, and they are not eliminated because they are not clearly indicated. When *unit costs* are known, such practices are spotlighted, and can either be reduced or eliminated entirely. The net result is a reduction of total costs.

### Everyone Would Benefit

One of the greatest benefits in many fields of production has been the development and adoption of *uniform* methods of cost accounting. The adoption of such methods has not, per se, discouraged competition; on the contrary, it has often increased it. But it *has* eliminated much of the old "cut-throat" type of competition which profited no one—in the long run, not even the consumer, who theoretically would get whatever benefits might occur in the form of goods sold temporarily at a loss.

If we can look forward to a time when basic methods of distribution cost accounting are available for all retailers, we may also look forward to the more scientific pricing of merchandise at retail—placing competition on a sounder and more economic basis, helping to move merchandise faster through economic channels, and ultimately reducing the cost of distribution in this country.

Of course, the idea of uniform cost accounting methods does not at all imply uniform prices. There will always be services for which many consumers are willing to pay; and there will always be varying degrees of distributing efficiency. Costs will differ; and prices—if costs are fully covered—must also differ. I believe the leaders in distribution should give constructive attention to this question.


CYCLE BILLING SIMPLIFIED WITH K&S CONTROL

EQUIPMENT AND RECORD HOUSINGS
•
FILING SUPPLIES AND SYSTEMS
•
PLANNED IMPROVEMENT OF SYSTEMS AND METHODS
•
CARDS AND PRECISION RECORD FORMS

The problem of converting to Cycle Billing is greatly simplified when you make use of K&S facilities. Because we feature several types of record housings adaptable to this system instead of specializing in one limited type, we can recommend the equipment best suited to your individual needs. K&S will help you develop an individualized custom-planned system, supply the record housing and produce the precision record forms to insure the smooth efficient functioning of your cycle billing.

*For some interesting facts on Cycle Billing visit our display at the N. R. D. G. A. Convention or at our New York Showrooms.*

KOLLER & SMITH CO., INC.
41 CHAMBERS ST., NEW YORK 7, N. Y.

COMPLETE PRODUCTION AND DESIGN FACILITIES BACKED BY SPECIALIZED KNOWLEDGE OF BUSINESS SYSTEMS

JAN 11 1945

# Bigelow *advertising is the No. 1 effort in putting rugs ahead on the nation's shopping list*

## ...the biggest selling job today for rugs selling at retail tomorrow

Statistics indicate that families in every community will buy a few badly needed items as soon as possible. Clothing, automobiles, appliances, home furnishings, etc. will all compete for the consumer's dollar.

According to a Ladies' Home Journal market survey: "The average family can not hope to satisfy all its desires, even if it spends all of its accumulated savings. It will be a matter of choice and selection."

It's the same old story. People still have to be sold.

Bigelow advertising has never lost sight of this fact. Right through the war, with no pause, more Bigelow ads are attempting to put rugs out in front on the shopping lists of your customers. It's a policy that Bigelow dealers will cash in on when rugs are again available.

**MORE CONSISTENCY.** The Bigelow quality story has been more consistently told in full color than any other.

**MORE MESSAGES.** An outstanding record of more than 212,000,000 Bigelow advertisements to potential rug buyers since the start of the war.

**MORE MAGAZINES.** Bigelow has used a far bigger list of national magazines than any other rug brand selling at retail.

BIGELOW WEAVERS PRESENT
WHEN OUR SHIP COMES IN
TIME: THE FUTURE
PLOT. The chaplain married them
soon after Anne met Tom at the Base.
They've had little time together
but they are sure the future's 1.0.
Both want the same things
when their ship comes in...
it may not be too long now...
a home near the water,
a sea-view living room,
a bunny [illegible] window.
Tom says it all will be
blue-water sailing,
so a blue-water blue rug is
the first thing they will buy.
Anne has learned respect for
fine materials and design.
Anne knows in a Bigelow rug
these things will all be theirs,
be it Bearcat,
or another grade by Bigelow.
FREE BOOKLET. See the rest of this room—by
famous designer. Decorating rules, colors, helpful
hints. Write to: Address below.
ENSIGN ANNE HAWE
ENSIGN THOMAS HAWE
CHAPLAIN KNOX
Formals
BIGELOW WEAVERS
Fine rugs and carpets since 1825

**EYE OPENER**

Your customers are making plans, in a big way, for home furnishings when they can get them. This single Bigelow ad has brought thousands of requests for a booklet on how to plan *now*, to decorate the Bigelow way.

**BIGELOW-SANFORD CARPET CO., INC.**

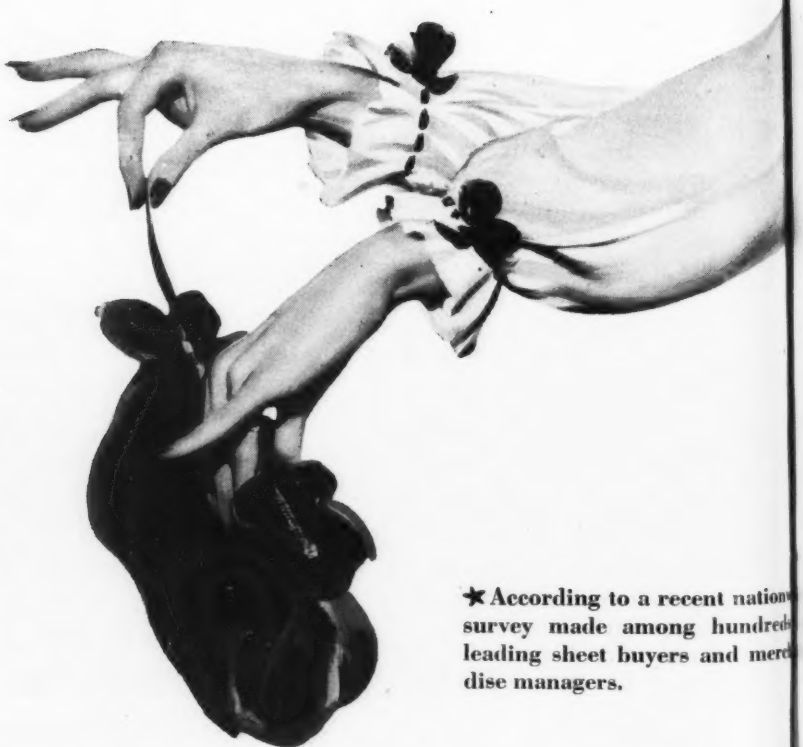
**140 MADISON AVENUE, NEW YORK 16, N. Y.**

THE BULLETIN of the National Retail Dry Goods Association, December, 1944. Vol. 26, No. 12. Issued monthly by the National Retail Dry Goods Association, 101 West 31st Street, New York. $3.00 per year available to members of the National Retail Dry Goods Association only. Entered as second class matter, March 1, 1932, at the Post Office at New York, N. Y. under the act of March 3, 1879.
Copyright 1944, National Retail Dry Goods Association.

"I'm at the sheet counter...

I'm opening my purse...

# What's the name I ask for?"



★ According to a recent nation survey made among hundreds leading sheet buyers and merc dise managers.

**Sales Checks** and credit slips are accumulated in each customer's "pocket" of the Kardex Unified Credit Record. At the end of the cycle all slips are pulled and attached with the customer's non-descriptive bill. Re-action to the new and simpler bill is preponderantly favorable.

# ED. SCHUSTER & CO., INC.

## MILWAUKEE

## NOW USING SIMPLIFIED CYCLE BILLING

THIS famous Milwaukee store became one of the newest users of Simplified Cycle Billing this Fall, when customers first received their new-type "streamlined" bills. For the store, benefits include actual operating economies as well as elimination of month-end peak loads. The multiple functions of credit and collection control and accumulation of posting media are all centralized in the Kardex Unified Credit Record. Pictured here in operation, the entire system was developed and installed by the *Retail Store Department* of REMINGTON RAND'S SYSTEMS DIVISION. Address: Buffalo 5, New York.

**Credit and Collection** control under Regulation "W" are among the centralized functions of the Kardex record. This general view of the Ed. Schuster & Co., Inc. installation and close-up above suggest the calmly efficient operations *throughout the month* when this system is used.

# IS HER TRIP NECESSARY?

No. Trips and falls can be prevented.

Liberty Mutual's department store experts have tracked down thousands of accidents . . . analyzed their causes . . . developed ways to help policyholders prevent them.

That's one reason why Liberty Mutual is saving money for hundreds of leading stores on liability and compensation coverage. Protection begins with prevention. Department store policyholders enjoy the services of skilled loss-prevention engineers, armed with long experience in store hazards.

Liberty Mutual's loss-prevention men are members of a team including coverage and claims men, all working together to *smooth the flow of merchandising* in your store.

We'd like to tell you more about the savings which Liberty Mutual has made for leading stores through improved loss records . . . through skillful handling of claims which protects the store's good will . . . and through the dividends which Liberty Mutual has paid regularly.

Write to Liberty Mutual Insurance Company, 175 Berkeley Street, Boston 17, Massachusetts.

LIBERTY MUTUAL
INSURANCE COMPANY
HOME OFFICE: BOSTON

*Smoothing the flow of merchandising*

# They shall not be forgotten

WHEN the tumult and the shouting dies . . .

When it's all over over there in Europe and our boys and girls start coming home . . .

Shall we forget their courage and devotion, the sacrifice of the best years of their lives, the dangers they faced unflinchingly for us?

It is inconceivable.

No, *they* shall not be forgotten.

★ ★ ★

Nor in the days ahead, when an indomitable people turns to the "beating of swords into ploughshares," shall be forgotten Labor's stalwart stand and contribution to Victory . . .

Nor Management's, so largely responsible for the awesome miracle of production which electrified free men everywhere and saw democracy's forces the best equipped, best clothed, best fed the world has ever known . . .

Nor the "little people" of the nation who, quietly on the home front, served in their myriad ways . . . Neither shall these be forgotten.

★ ★ ★

And while saluting those who made more conspicuous contributions, let us also give recognition to those manufacturers and service organizations who, in the face of difficulties that seemed insurmountable, served so valiantly to keep our vital domestic economy moving.

When the going was hardest, when everyone was clamoring for goods and services of which there were not enough to go around, they did their best . . . they came through!

These too shall be gratefully remembered in postwar years.


*Though war's imperious demands have preempted a large part of our production capacity, we know that the Nation's Retail Institutions — themselves doing a magnificent job under unprecedented difficulties—recognize the part that Rosemary Products have played in helping maintain their quality standards.*

*In peace, as in war, Rosemary will continue to offer a dependable source for your requirements in*

TABLE NAPERY
BED SPREADS
DECORATIVE FABRICS
FLANNELETTE
WORK SHIRTS
MATTRESS TICKINGS

*"Made right, in America!"*

**ROSEMARY SALES**

*A Division of Simmons Company*

40 WORTH ST., NEW YORK 13, N. Y.

# Chatham promotion hits its peak!

## 25 Million Radio Homes per Week!

Lois Long, "The Chatham Shopper," helps you sell many other products besides Chatham Blankets. Her weekly fashion report to American women is aimed at increasing home-furnishing and department store sales in general. Listen to Lois Long Saturday mornings, coast-to-coast on the Blue Network. We think you'll like her program. We know you'll like the extra boost it gives your sales.

## 21 Million Magazine Readers per Month!

And now, January! And a new ad in Chatham's campaign to help your blanket promotions. These big two-color ads have been appearing in all the leading women's magazines . . . reaching 21 million home-makers per month . . . every month during the peak blanket-selling season.

# Chatham Blankets

*"THE AMERICAN STANDARD FOR BEDTIME COMFORT"*

Chatham Mfg. Co., Elkin, N. C.

# PLASTICS

## *A Handbook for Retailers*

PUBLISHED BY THE BULLETIN OF THE NATIONAL RETAIL DRY GOODS ASSOCIATION
IN COOPERATION WITH THE SOCIETY OF THE PLASTICS INDUSTRY

# "It's the one bright star in my *Consternation*"

Many a retailer of men's—yes, and *women's* wear—could sell a heap more merchandise with MELMAC* Plastic Buttons—if the merchandise could be had!

Shirts are short these days and maybe getting scarcer all the time, but there's a silver lining to retailers' "consternation." MELMAC Plastic Buttons on the civilian goods you *can* get will make lifelong friends of wartime shoppers... build goodwill that you can turn into a profit after the war when merchandise and MELMAC will be plentiful. Check the list below of exclusive sales features of these new plastic buttons! MELMAC is the product of the Plastics Division, American Cyanamid Company, 30 Rockefeller Plaza, New York 20, N. Y.

*Reg. U. S. Pat. Off.

MANUFACTURERS! NOTIONS BUYERS! Get full information on MELMAC from your regular supplier. He will be glad to give you complete information, samples, and prices.

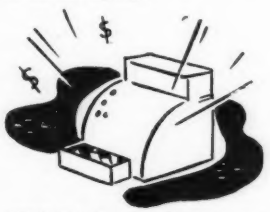
## *Here's What Made Melmac*

### A BRILLIANT SUCCESS AS A BUTTON MATERIAL

TIME NEVER DULLS the sparkling brilliance of MELMAC Buttons. Hard usage, repeated launderings, or trips to the cleaners will not cause MELMAC Buttons to "chalk" or "check," crack, warp, or peel. Even the most brilliant whites and pearls lose none of their original lustre.

STRONG AND DURABLE. MELMAC won't "crack up" under the roughest laundry treatment... won't break in ironing... and has no sharp, thread-severing edges.

CUSTOMERS appreciate the quality "look" of MELMAC Buttons in shade, color, and pattern. No uneven button tones mar the appearance of merchandise when MELMAC Buttons are used.



YOU'LL find a sales clincher in mentioning in connection with "wash" garments (i.e. shirts, shorts, p-j's, etc.) that the buttons are made of MELMAC.

# These are the Advantages of PLASKON ★ ★ MATERIALS ★ ★ for Retail Merchandise

★ The unusual properties inherent in Plaskon Materials make them especially suitable for the molding of parts, complete units, or assembly of, attractive retail merchandise in wide variety. Plaskon Materials are high in utility and decorative properties, giving products made from them impressive sales advantages.

***Plaskon Urea-Formaldehyde Compound***

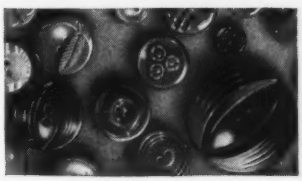
1. Wide range of lightfast hues, from translucent natural and pure white to jet black.
2. Smooth surface, eye-catching, warm to touch.
3. Completely resistant to common organic solvents, impervious to oils and grease.
4. Possesses extremely high flexural, impact and tensile strength.
5. Highly resistant to arcing and tracking under high voltages and high frequencies.

***Plaskon Melamine Compound***

1. Assures ample protection where water or high humidity prevent the use of urea compounds.
2. Exceptional resistance to acids and alkalies. Non-porous, non-corrodible.
3. Under extreme conditions of heat and humidity, is non-tracking, highly resistant to arcing, and has high dielectric strength.
4. Highest heat resistance of all light-colored plastics.

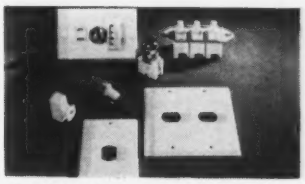
***Plaskon Resin Glue***

1. Materials bonded by Plaskon Resin Glue cannot be separated at glue line—the material fails first.
2. Plaskon glue line is completely moisture-resistant, cannot be weakened by mold or fungi.
3. Maintains its tenacious grip in heavy-duty service for years, under water, on land, in the air.

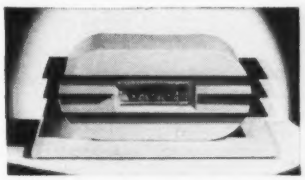


Plaskon Molded Color buttons are available in a wide range of designs and beautiful colors, for every garment use. These buttons are strong, lightfast, free from sharp edges, and withstand extreme laundering.

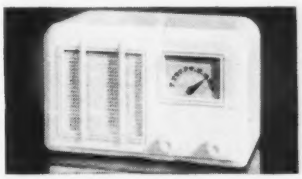
Plaskon Resin Glue holds flat wood areas and joined surfaces with a grip so powerful and permanent that warping, splitting, cracking and peeling are eliminated under even the most exceptional service conditions.



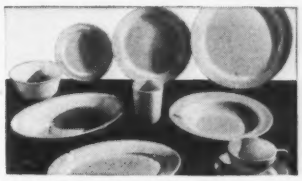
The dielectric properties of Plaskon, plus the wide range of colors, makes it highly desirable for the insulating and decorative requirements of switches, plates, plugs, reflectors, household appliances, and other electrical applications.



Molded Plaskon is very smooth, attractive to the eye, and warm to the touch. Its rich colors provide interesting opportunities for decorative notes with utility appliances throughout the home.



Plaskon can be molded into a wide range of sizes and designs. Its surface lustre and polish can be as high as desired. Scratching and abrasion do not impair its color value.



Tableware of molded Plaskon melamine is colorful, distinctive and serviceable. It is light in weight, can be compactly stored without breakage, and will not dangerously shatter. It is tasteless, odorless, easy to clean.

**PLASKON DIVISION,** LIBBEY • OWENS • FORD GLASS CO., 2102 Sylvan Ave., Toledo 6, Ohio

*Canadian Agent:* Canadian Industries, Ltd., Montreal, P. Q.

**It's Good Merchandise if it's made from PLASKON**

TRADE MARK REGISTERED

**MOLDED COLOR**

...Ever the Gem—
CATALIN
Catalin is power over color. At any of the innumerable points across the spread of its broad spectrum, Catalin cast resins can pause . . . and there vividly and dramatically reproduce the variations, hues and rich sparkle which emanate from nature's semi-precious stones. It is this that sets Catalin apart from and above all other plastic materials; qualifies it for example, to portray to pattern the luxury of marble, quartz, onyx, and to re-enact the depth and reflections of jet, jade, ivory and garnet.
For products that, in appearing at their finest, must also observe important manufacturing economy, the use of Catalin stands . . . as ever . . . the gem!
CATALIN CORPORATION
ONE PARK AVE., NEW YORK 16, N. Y.
CAST RESINS · LIQUID RESINS
MOLDING COMPOUNDS

Remember the old argument: "Is a zebra a white animal with black stripes, or a black animal with white stripes?" Nobody has ever decided that, but everyone agrees that a zebra without stripes just wouldn't be much of a zebra at all.

So much for zebras. Now, take underwear. You like lace and I like bow-knots. You like panties and vests and I like chemises. But, we agree, in any case, "IN UNDERWEAR — IT'S THE FABRIC THAT COUNTS."

That's why so many stores proudly feature their undies made of *Spun-lo Knit Rayon Cloth. They know that this cloth will please their customers because it's so lovely next to the skin, because it wears so well, because it washes beautifully and need be ironed only if desired. Well worth looking for. Remember the name

*Spun-lo
KNIT RAYON CLOTH

Industrial
RAYON CORPORATION
MAKERS OF
Spun-lo KNIT UNDERWEAR CLOTH
AND RAYON YARN

CLEVELAND, OHIO · NEW YORK OFFICE, 500 FIFTH AVENUE

*Reg. U. S. Pat. Off.

# Here's a postwar plan that makes profits today!

Don't wait until the war is won to improve selling efficiency in your store.

The National Cash Register Company's store-tested survey shows you how to speed up service to customers and gain maximum economy at the same time.

A National representative, specially trained in store systems, will carefully study your store's methods of handling transactions and its floor lay-out. He'll suggest how you can get the maximum use from the features of your present cash registers.

He can also give you helpful suggestions in the accounting and bookkeeping departments on accounts receivable billing, accounts payable, pay-bill desk, deferred payment and other types of work.

**NO OBLIGATION—ACT NOW!**

This time- and money-saving National Survey places you under no obligation. Take advantage of this opportunity. Call or write your nearest National representative for information today.

**National**

*CASH REGISTERS · ADDING MACHINES*
*ACCOUNTING-BOOKKEEPING MACHINES*

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**THE NATIONAL CASH REGISTER CO.**